

COMBO SERIES VS-99-D



SERVICE MANUAL

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WARRANTY (LIMITED)

Polyvend Inc. warrants this equipment to the original purchaser only to be free from significant defects in material or workmanship, for a period of twelve (12) months, three years on the electronics, one year on the cooling system to the extent such parts are warranted to Polyvend Inc. and one year on ballast for fluorescent lights, The warranty period of twelve months applies to purchased components or to the extent such parts are warranted to Polyvend, whichever is less. This warranty does not include **starters, light bulbs and fuses**. Validators, changers and debit card systems are warranted according to the manufacturer of the units.

Any defective part, returned within the warranted period, will be repaired or replaced at Polyvend's option. This warranty does not cover the labor for removal or reinstallation associated with such parts. The returned parts must be shipped, freight prepaid, to Polyvend. Polyvend will prepay the shipping cost of returned goods. Any part returned under the terms of this warranty must be accompanied by the Polyvend Parts Returned Form, with proper documentation.

The warranty is voided if a defect is caused by improper power supply, abuse of product, accident, alteration, vandalism, improper cleaning, incorrect wiring, improper changer installed, improper installation, units repaired or altered, where serial numbers have been altered, or improperly serviced (not in accordance with the instructions given in the Service Manual).

Polyvend Inc. reserves the right to make any changes or improvements in its product without notice and without obligation and without being required to make corresponding changes or improvements in products theretofore manufactured or sold.

LEKTRO-VEND VS-99 D SNACK / FOOD COMBINATION

The Lektro-Vend VS-99 D Snack/Food Combinations (Combo) machine is a revolutionary new concept in vending equipment. It is designed to help the Operator increase his competitive position and service to small to midsize locations. With this machine, a location can be serviced with not only snacks, candy and pastry, but the location can now be serviced with juices, milk, yogurt, candy bars, sandwiches and other cold foods all with one machine.

The machine comes equipped with six (6) shelves for snacks, candy and pastries and nine shelves for cold food. The six shelves for snacks/candy can be purchased configured in the manner that is best for your location and each "compartment" can be priced individually. The nine shelves for cold food can setup with any combination of compartments from four (4) to twelve (12) and each "shelf" regardless of the number of compartments, is priced individually.

SPECIFICATIONS

HEIGHT 72"

WIDTH . . .

DEPTH

SHIPPING WEIGHT. (APPROX) 860 LBS

ELECTRICAL SPECIFICATIONS

PRIMARY VOLTAGE 110VAC
 SECONDARY VOLTAGE 24VAC
 MAXIMUM CURRENT 15AMP
 VOLTAGE TO CHANGER 24VDC
 VOLTAGE TO VALIDATOR 24VDC
 VOLTAGE TO MOTORS 24VDC
 VOLTAGE TO SOLENOIDS 24VDC

VENDING COMPARTMENT SPECIFICATIONS

SNACK SIDE

CHIPS/PASTRY 7 3/8" High X 5 1/2"
 CANDY 7 3/8" X 2 3/4"

HELIX SIZES AND CAPACITY

HELIX SIZE	PRODUCT CAPACITY
3"	6
2"	10
1 3/4"	12
1 1/2"	14
1 3/16"	18
1"	22
13/16"	27

CAPACITIES

12	12	12
○	○	○
14	14	14
○	○	○
14	14	14
○	○	○
12	12	12
○	○	○
14	14	14
○	○	○
10	10	10
○	○	○

Model. 18E
 16 Selections
 Capacity 228

12	12	12
○	○	○
14	14	14
○	○	○
12	12	12
○	○	○
14	14	14
○	○	○
14	18	22
○	○	○
10	10	10
○	○	○

Model 21 E
 21 Selections
 Capacity 307

12	12	12
○	○	○
12	12	12
○	○	○
14	14	14
○	○	○
14	18	22
○	○	○
14	18	22
○	○	○
10	10	10
○	○	○

Model 24E
 24 Selections
 Capacity 366

12	12	12
○	○	○
14	14	14
○	○	○
14	18	22
○	○	○
14	18	22
○	○	○
14	18	22
○	○	○
10	10	10
○	○	○

Model 27E
 27 Selections
 Capacity 471

12	12	12
○	○	○
14	18	22
○	○	○
14	18	22
○	○	○
14	18	22
○	○	○
14	18	22
○	○	○
10	10	10
○	○	○

Model 30E
 30 Selections
 Capacity 550

COLD FOOD SIDE

The cold food compartments are pie shaped and the following are the approximate straight line dimensions. Actual size of containers that will fit in the pie shaped area are not considered,

Vertical Clearance: 4 3/8"

Front to Back Dimension: 4 7/8"

Front of pie (One corner to the other):

Compartments

Dimensions

12
 6
 4

3 1/2"
 7"
 8 1/2"

INSTALLATION

Remove all external packing material.

Inspect equipment for shipping damage. If evident file claim immediately with the carrier (see Shipping Procedures).

Remove keys from product dispensing compartment (in small manila envelope), unlock the service door and remove the shipping material.

Check the operation of the service door and locking mechanism. They should operate smoothly and latch at all three locking plates.

If optional Gum & Mint installed, slide the shipping clip to the left located on the left side of the gum and mint assembly. Release the tray on the right side with the latching clip and slide the tray in and out to ensure that everything slides smoothly.

Place machine into position and adjust leveling legs so the machine is level and all the legs sit firmly on the floor.

It is extremely important to provide the machine with sufficient air flow for cooling. Provide a MINIMUM OF SIX (6) INCHES SPACING BETWEEN THE WALL AND THE BACK OF THE MACHINE.

CAUTION: DISCONNECT POWER TO THE VENDING MACHINE BEFORE REMOVING THE CONTROL BOARD OR COIN CHANGER OR WORKING ON ANY COMPONENTS IN THE MACHINE.

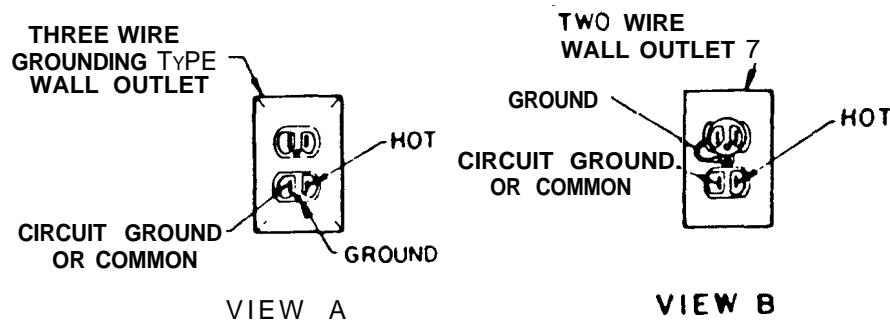
Install coin mechanism and bill validator (if required). NOTE: Changer must be installed in machine to operate control board. All changers and validators used in this machine must be 24 volt.

Plug service cord into 11 OVAC source using the three prong grounded plug provided. If a grounded outlet is not available, use a proper external ground on all locations.

NOTE: In order to comply with electrical safety regulations and Underwriters Laboratories requirements, all electrical equipment must be properly polarized and grounded. The Polyvend machine is wired so that it is properly polarized in accordance with the electrical code. If the wall outlet is wired and grounded properly, then the vending machine will connect properly.

Shown in **views A and B** are two properly grounded and polarized wall outlets. One is a three wire grounded type wall outlet (See View A) and the other is a two wire wall outlet (See View B) with an adapter in place.

Should the polarity at the wall outlet appear any way other than that shown below, the outlet should be rewired by qualified personnel.



CAUTION: DISCONNECT POWER TO THE VENDING MACHINE BEFORE REMOVING THE CONTROL BOARD OR COIN CHANGER OR WORKING ON ANY COMPONENTS IN THE MACHINE.

Check and make sure that the power indicator light (24 volts) is illuminated on the control board.

Test the coin mechanism and bill validator (If installed) to ensure smooth operation. If the operation of the coin mechanism is not smooth, check to make sure that you have proper alignment of the changer with the coin return lever. Make sure that the coin tubes have plenty of money in them to test the validator.

Fill the coin tubes on the coin changer located on the front door of the machine. It is very important to fill the 25¢, 10¢ and 5¢ tubes for proper change pay back and operation of the bill validator (if installed). NOTE: The maximum amount of change a Coinco 9302LF will hold is \$38.60, \$22.50 in quarters, \$12.00 in dimes and \$3.40 in nickels. The maximum amount of change that a Mars TRC-6010XV will hold is \$29.95; \$16.75 in quarters, \$9.80 in dimes and \$3.40 in nickels.

Operate each vending dispenser, using coins. Operation should be smooth.

In the large manila envelope is a sheet with the sticker "PLACE FOOD HERE". Peel each sticker off and place it on the delivery door rail just below delivery door on the cold food side. The position should be in the center of the compartment that the selection will vend from.

Cooling system is not set from the factory and normally requires adjustment to the environment it will operate in. Do not change cooling system adjustment unless inside cabinet area is above 40 degrees or below 36 degrees on digital thermometer after unit has been running for at least one hour. Adjustments should be no more than 1/8 turn then wait to allow system to balance out properly. See cooling system information page 42 for complete instructions on set up of machine.

Load the machine with product (See section on product loading).

Place the price stickers on the trays to the right of the selection stickers and on the clear plastic vend doors above the selection stickers. Set the prices of the products in the control board (See price setting)

Check to make sure that the Vend Option: Forced Vend is set at the desired setting. See Forced Vend mode.

Set all other options to the desired setting. See vend options.

On the refrigerated side of the machine is a blower system designed to keep condensation from forming on the plastic delivery doors. The system directs warm air across the delivery doors. Make sure that the unit is blowing air across the delivery doors.

Close the front door and lock the machine.

PRODUCT LOADING

Helix Tray Dispenser

There are several helix pitches available. To insure proper operation and maximum capacity, the product size should closely match the opening between the windings of the helix so as not to be tight, but should fill most of the opening.

The helix sizes available are listed below

CANDY HELIX

27CT
22CT
18CT

SNACK HELIX (DUAL HELIX)

14CT
12CT
1 OCT

PRODUCT THICKNESS

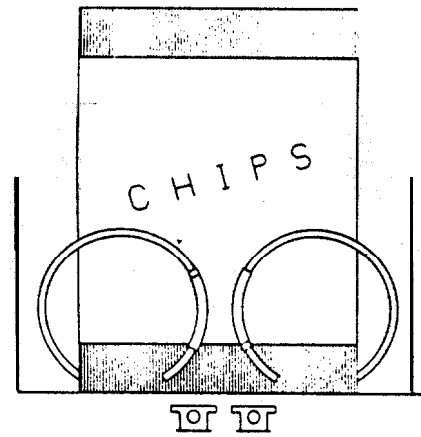
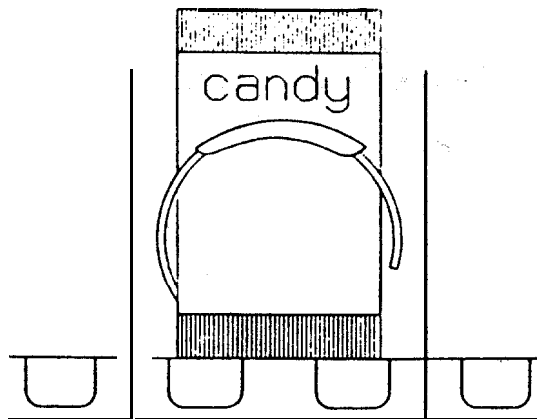
3/4" thin candy bar
1" medium candy bar
1 13/16" large candy bar

PRODUCT THICKNESS

1 1/2" medium chip bag or pastry
1 3/4" chip or pastry
2" large bag chip or pastry

PRODUCT LOADING

To load a tray, lift up on the front of the tray and slide it out to the stop, then let it tilt down into the loading position. At this point, check that each helix is in its proper position. The figure below shows the proper position.



Starting at the front of the tray, insert a product between each winding of the helix so the name of the product is displayed forward. Be sure to place the product all the way to the bottom of the tray and tilt free end at the top backwards. Fill from front to back and be sure not to miss any positions. Note: product must rest on tray NOT on helix. After filling the tray, lift the front of the tray and push it back in until it hits the stop.

NARROW PRODUCT LOADING

In order to keep narrow products positioned properly the use of one of the spacer rails may be required. For additional rails order part no. 099-5107.

To install the guide, press on the tray divider as shown in Figure 2 below.

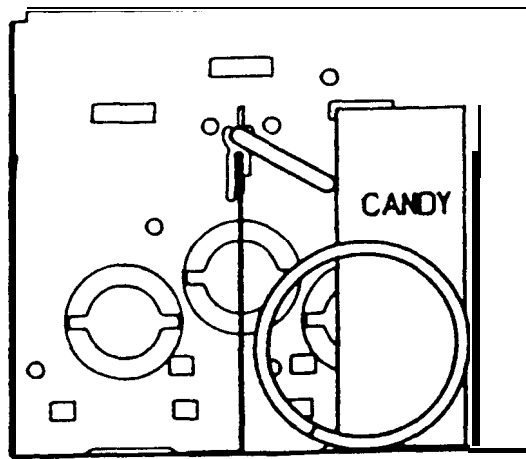


FIGURE 2

(OPTIONAL) GUM AND MINT TRAY LOADING SLIDE OUT DRAWER STYLE

The four select gum and mint dispenser is available in kit form or can be factory installed in a new machine. Each selection will hold up to 20 packs of gum (5 stick per pack) or roll candy up to 5 inches in length. There is a small metal tab that can be installed to allow you to dispense small rolls of anti-acid tablets or similar size products.

All machines are prewired from the factory so you can install the gum and mint kit at a later date. The harness for the gum and mint assembly is plugged into the motor distribution board (same board the trays are plugged into).

LOADING INSTRUCTIONS

Release the tray by pushing on the tab located on the right side of the tray and pulling the tray out to the stop. To load, push the cover toward the rear of the machine. The two wide product selections are fitted with width adapters, installed for dispensing longer products up to 5 inches in length. Place the packs of gum or rolls of mints on their side and stack towards the back of the gum and mint tray. Upon filling each selection, slide the tray cover forward back into place. Then slide the tray back into the machine until latched into position.

CAROUSEL LOADING

Open the refrigerated door section. To step the carousel there is a three (3) position service switch in the upper right hand corner of the cabinet. If you press this button the carousel will step 30 degrees, 1/2 of turn, which is one small compartment. If you pull the stepping switch out the carousel will run continuously. Load the tray compartments with the desired products. Then close the refrigerated door and rotate the carousel making sure all items are in their correct compartment according to the pricing of that tray. When you first set up the machine it will be necessary to reset the health control by going into the service mode and then come back out. After the health control has been reset it will not be necessary to reset it. The health control will automatically reset). The machine will then display the message "ENJOY ONE OF OUR FINE SNACK PRODUCTS". In 30 minutes the cold food timer will clock out and the health control will ensure that the temperature inside the refrigerated area is below 45 degrees. Should the temperature be above 45 degrees, only the cold food side will be shut down and NOT the vend selections. If a cold food selection is chosen, the display will say "Make Alternate Selection".

COLD FOOD SIDE SETUP

The Cold Food Side of the Combo unit comes equipped with nine (9) revolving shelves. The shelves are designed in two halves, two 160 degree segments. Each segment can be quickly removed to change the number of compartments per shelf and or to clean.

REMOVING TRAY HALVES

The tray halves can be easily removed to change the divider configuration for loading or for cleaning. They are removed by the following procedures:

Underneath the center of the tray half is a leaf spring that is holding a stud attached to the tray. Pull down on the spring to release the stud and pull the tray outward towards you.

2. The rear of the tray is inserted into a groove in the collar that is attached to the tray column. A slight outward pressure may be required to disengage the rear of the tray from the groove.
3. **The** lip on each tray is designed with tabs that extend beyond the back edge of the tray. These tabs slip underneath the adjoining tray half to lock the two halves together and provide support for each other.
4. When the tray half is removed you will notice that the 12 and 6 compartment trays have a security top with clips that slip through the top and over the dividers. After changing the dividers or **cleaning** the tray replace the security covers and clips. These are required to keep the dividers from being bent sideways and allowing the food from being removed from the next compartment.

CAUTION: ALWAYS INSTALL THE SECURITY COVER AND CLIPS

REMOVING A CAROUSEL JAM

NOTE: If the carousel drive motor ever fails and the carousel is not in a position that the tray halves can be removed, do the following to remove the chain.

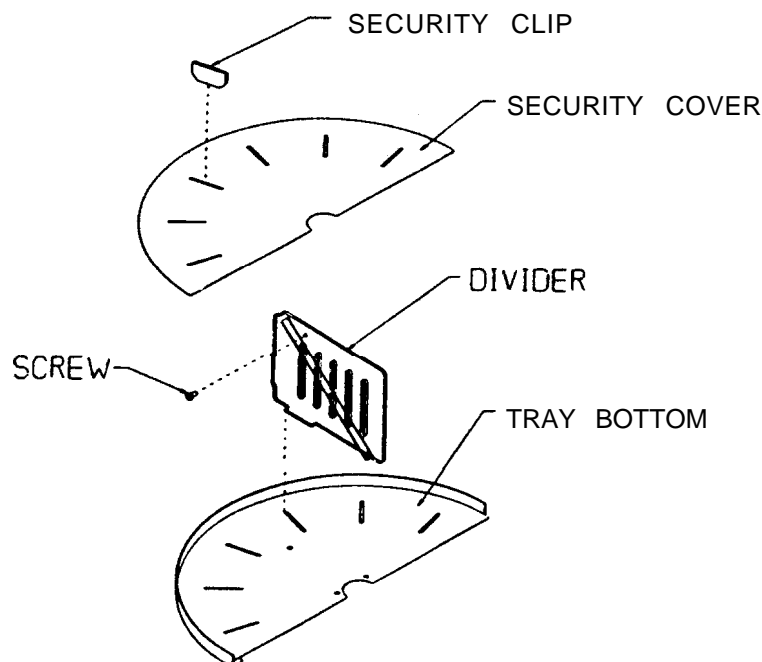
1. In the bottom of the machine is a wing nut wrench. (A long piece of metal pipe with notches at one end located on the left side in the bottom.)
2. The wrench is used to reach the wing nut on the drive motor bracket which is located on the back wall. (Insert the wrench under the top sprocket.)
3. Loosen the wing nut only enough to drop the chain off the sprocket so the carousel can be turned by hand in the reverse direction to unjam the unit. Do not loosen the **wingnut** enough that it drops off. Once you have unjammed the carousel reinstall the chain, ensuring that the tray dividers line up with the right security panel by each delivery door on the machine.

NOTE: Care must be taken to not over tighten the sprocket chain or the unit may bind up.

CHANGING DIVIDER POSITION CAROUSEL TRAY

Divider positions can only be changed while the tray half is removed from the machine.

1. Loosen the screw holding the clip in place. Then **remove** the security cover and clip. See Figure 3.
2. Lift the rear of the divider first with a slight upward pressure. This allows the divider latch to slip out of the tray bottom. To replace the divider reverse this sequence of steps.
3. Replace the security cover and clips as required. Slip clip under screw and tighten. See figure 3 below.



PRIMARY CABINET COMPONENT INFORMATION

HIGH VOLTAGE POWER SUPPLY

The high voltage power supply is located in the bottom of the machine on the left hand side. Inside of the power box are the step down transformers, ballast for the lights, RFI filter and surge suppressor. The starters for the three fluorescent lights are located on the front of the power supply box. There are four (4) circuit breakers located on the front of the power box. The left 3 amp circuit breaker on the front of the box is for the control board, changer and validator if installed. The next circuit breaker to the right is the 12 AMP breaker for the 24 volts for the carousel motor. The next circuit breaker to the right is the 2 amp breaker for the fluorescent lights and the final circuit breaker to the right is the main 15 amp breaker for the entire machine. To the right of the circuit breakers is the main power switch for the entire machine.

HELIX TRAY REMOVAL

NOTE: It is important to remember that the top tray (A row) in this machine will not interchange with any other tray in this machine.

To remove a tray lift up slightly on the tray front while pulling the tray out to the loading position. Disconnect the tray harness from the main motor distribution board. Set the tray harness on top of the tray. Pick up on the front of the tray lifting the tray upward at 45° angle and outward. Grasp the tray at the front and the rear and place it on a work surface.

To replace, reverse the operation. Grasp the tray, set the rear of the tray on the rails while holding the front of the tray at a 45° angle upward. Slide the tray in until stop on the bottom of the tray clears the front cross rail. Then lower the front of the tray while sliding it in until it comes to the stop. Feed the tray harness around and plug it into the main motor harness assembly.

HEALTH SAFETY SWITCH OPERATION

Operation and Testing

The international control board incorporates a Health Safety sensing system. If the temperature inside the cold food compartment reaches 45 degrees or higher, during normal operations or there is a loss in power, the control board will not allow any cold food to be vended (all of the H selections). If this condition exists "Make Another **Selection**" message will be displayed when the customer tries to vend a cold food selection. The control board also incorporates a timer which allows the cold food box 30 minutes to cool down below 45 degrees before the Health/Safety system becomes active. At the initial start-up of the machine or after an over temperature condition has occurred the Health/Safety switch timer must be set manually. But for normal food loading and servicing the Health/Safety switch timer is automatically reset when the main door is closed.

To manually reset the Health/Safety switch for the 30 minute timer:

1. First open the main door.
2. **Press** the Mode button to go into the service mode, then press the mode button again.
3. The health control is now reset and the timer will start running when the front door of the machine is closed. If power is lost or the temperature inside of the cold food area is above 45 degrees the health control will have to be manually reset so it will be necessary to repeat the above steps. Under normal operation when a person comes to load the machine it will not be necessary to manually reset the health control timer.

To test the health control sensor and make sure that the system is functioning properly do the following to a machine that has been operating for at least one hour, note that is normally a two person operation.

1. Open the main and cold food doors.
2. Remove one half of the bottom tray.
3. Rotate the carrousel until you are able to reach the health safety sensor which is located in the lower left hand corner of the cold food compartment extending out in front of the evaporator fan.
4. Close the doors and then vend the bottom selection on the cold food side.
5. Reach in and hold the probe in your hand to warm it above 45 degrees. Then remove your hand and allow the door to close completely.
6. Try and vend another cold food compartment. When the message MAKE ANOTHER SELECTION is displayed you know that the health safety switch has kicked out and will not allow another cold food vend.

SHOPPER SYSTEM OPERATION

This machine features a Shopper Mode Merchandising System. The rotation of the carousel is started by pressing the "Press to View" bar located on the main door. This energizes the carousel motor relay, applying power to the carousel motor. A cam on the motor allows the motor to turn 180 degrees which in turn rotates the carousel 30 degrees (1/12 turn) or the equivalent of one small compartment width. When the bar is depressed and held, the motor continues to rotate the carousel. The carousel is driven by a chain drive and sprocket system.

NOTE: Should something cause the carousel to jam and stop rotating and the position of the carousel is such that you can not remove a tray section follow this procedure. Located in the bottom of the machine on the far left side is a piece of metal tubing with one end slotted. Reach over the top of the carousel and unscrew the wing nut tension screw. Remove the chain from the large sprocket and then reverse the direction of the carousel to remove the item causing the jam

Carousel Alignment

When installing the chain drive on the carousel it is very important that the carousel be aligned with the front door of the machine. To align the front door with the carousel dividers, loosen the tension on the chain drive enough to be able to move the chain one sprocket in the direction required to align the carousel and then tighten the chain. Be careful not to over tighten the chain.

Carousel Motor Assembly Adjustment

If the carousel motor is stopping prematurely or is not stopping at all it may be necessary to adjust the carousel motor in relation to the stepping microswitch. Remove the top two tray halves in the carousel assembly. To adjust the motor there are four hex headed screws on top of the carousel motor assembly. Loosen the four screws and slide the motor to the left or the right to adjust it. Only a slight amount of movement is required to change the adjustment. Then retighten the four screws and test the unit.

BLOWER SYSTEM FOR COLD FOOD DOOR

The blower system is designed to keep condensation from forming on the plastic delivery doors. The system directs warm air across the delivery door from the right side and should be kept clean.

THEORY OF OPERATION

When inserting coins and the highest price set in the machine is reached, no additional coins will be accepted by the changer. When inserting bills and the highest vend price set in the machine is reached the validator will not accept any additional bills and the changer will not accept any coins.

By pressing a selection letter and number the control board will compare the price of that selection with the credit accumulated and if there is enough a vend motor or a solenoid will be energized. When the vend is completed the control board will then determine if any change is due and dispense the correct change from the changer.

Should a vend motor fail to return to the home position in six(6) seconds the control board will assume that the motor is jammed. The control board will automatically take the selection out of service (remove it from the machine configuration and inform the customer to "Make an Alternate Selection". A jammed motor does not affect any other selection in the machine. The selection that is jammed will be displayed on the digital display as out of service when the mode button is pressed. The vend motor can be put back into service when the mode button is pressed and the selection has been service vended two (2) times.

If the level of coins in the changer is too low the control board will display the message "USE CORRECT CHANGE" on the display and will also shut down the bill acceptance feature (if validator is installed).

When going into the Service Mode the control board will display the following message if there is a problem.

- A. The selection letter and number of a faulty or jammed motor along with an error code. Error 1 or Error 2
- B. Error code 3 = Loss of communication with changer.
Charger has malfunctioned
- C. Error code 4 = EEPROM Sum check error.

NOTE: Error4 = Prices have been inadvertently altered and all prices have automatically been set to maximum by the control board. To clear these prices, reset pricing as desired.

If a bill validator¹ is being utilized the machine can be programmed to Forced Vend or a Non-Forced Vend system. When the Forced Vend option is used the customer must make a vend when the bill is accepted. Thus, the customer cannot use the machine as a change maker.

CAUTION: When removing the control board extreme care should be taken to avoid introducing static electricity into or onto the board. Under no circumstances should the board be placed on anything made of metal. To remove the control board simply disconnect power to the control board, remove the control board cover, unplug the harness and remove the screws mounting the control board to the door.

ELECTRONIC SPECIFICATIONS

1. Prices can be set to a maximum of \$99.95.
2. The control board will interface with the following 24 volt coin mechanisms:
 - A. Coinco 9302LF 15 pin
 - B. Mars TRC-601 OXV 15 pin
3. The international control board will interface with the following validators and will accept \$1 bills, \$2 bills, \$5 bills, \$10 bills and \$20 bills.
 - A. Coinco BA32SA*
*Option switches should be set as follows, switches 1 2,4,5 should be "off" switches 3,6,7,8 should be "on".
 - B. Mara NB-1 B 24 volt
 - C. Mars VFM1-L2-U2C
Mars VFM3-L2-U2C*
*Option switches should be set as follows, switches 1,2,3,4,5,6,7,8 should be in the "off" position.

ERROR CODES

1. Error 1 = Too little motor current
2. Error 2 = Too much time to complete the vend (6 seconds)
3. Error 3 = The control board has lost communications with the changer (changer has malfunctioned).
4. Error 4 = EEPROM sum check error.

NOTE: Error 4 = price have been inadvertently altered and all prices have automatically been set to maximum by the control board. To clear these prices, reset pricing as desired.

ELECTRICAL SERVICE SECTION

MODES OF OPERATION

The system will operate in one of two modes, sales or service. On power up (after completing configuration), the machine is in the sales mode. Service mode may be selected by pressing the mode button mounted on the control board. The system will return to the sales mode if the mode button is pressed or after 25 seconds of no service mode activity the control board will automatically return to the sales mode.

SALES MODE

In the sales mode, the control board will control the dispensing of products according to customer credit and selection inputs. The control board will communicate with the coin mechanism and dollar bill validator (if installed) so, as credit is entered it will be shown on the scrolling display. If there is inadequate change available, the coin mechanism will indicate that an "Exact Change situation" exists and the control board will show on the scrolling display "Please Insert Exact Money".

When a customer makes a selection on the key pad, A thru H and (within 5 seconds) numbers 0 thru 9, the accumulated credit will be compared to the price set for this selection and if credit is equal to or exceeds the set price, the corresponding motor or solenoid will be energized. If the vend is successful the price will be deducted from the credit value and the change returned. The vend will be considered unsuccessful if the motor does not receive sufficient current or fails to reach the home position within (6) seconds.

On the cold food side the product delivery doors are locked by solenoids. When a vend is made, the lock which allows the door to be opened is held open for 20 seconds, then it releases. If the door is not open the machine will wait for an indication from the door switch that the door is open. After approximately five minutes the machine will reset or it will automatically reset if the carousel is rotated.

SERVICE MODE

The service mode can be entered by pressing the "MODE BUTTON" located on the control board. By using the numbers and letters on the alphanumeric key pad, the operator can program and review the features of the control board. Upon pressing the mode button, will display any faulty motors, that have been detected as bad or jammed and then removed from service by the control board.

DETAILED OPERATION OF CONTROL BOARD

At the time of delivery from Polyvend Inc. the control board will be set as follows:

1. All vend options will be off.
2. The cash accountability will be set to \$00,000.00
NOTE: Due to factory testing the total will not be exactly \$00,000.00
3. All of the prices will be set to \$00.50
4. The total number of vends non-resettable will be 000000.
NOTE: Due to factory testing the total will not be exactly 000000.
5. The time and date will be blank with the clock turned off
6. The timed shut down intervals will be off and blank.
7. The promotional rows will be blank.

DOORS SWITCHES

This vendor is equipped with a door activated on/off switch which shuts off the 24 volts **AC** power in the machine when the door switch is pulled out. When the front door is opened this switch is in the "on" position and stays in that position until the plunger is pulled out. The switch is mounted underneath the Gum and Mint on the left hand side. The other switch beside the power switch is the Health/Safety switch to start the timer for the Health/Safety control circuit.

CAUTION: The power door switch DOES NOT TURN OFF THE 120 VAC power to the lights, or cooling system.

1. COIN DISPENSING

To dispense nickels, dimes and quarters from the changer, press the service mode button. Now press selection button #1 then press selection button 'A' for nickels to be dispensed, "B" for dimes to be dispensed and "C" for quarters to be dispensed.

2. MOTOR COUNT

While in the service mode, press selection button #2 to display the total number of functioning motor. On the display the message "MOTORS" and the total number found in the machine will appear.

3. MOTOR REMOVAL

To remove a motor from the configuration while in the service mode, press selection button #3. The control board will reconfigure to the **currently** functioning motors. The display will show "CONFIGURED" upon completion.

4. ACCOUNTABILITY SYSTEM

1 CASH ACCOUNTABILITY

While in the service mode press selection button #4. The display will show "ACCOUNTING" then press one of the following letters

A = Total cash accountability, the total value of all paid sales which will rollover after \$99,999.95.

B = Total bill validator accountability (if bill validator installed), the total number of bills taken in which will rollover after 99,999.

Note: This feature can not be reset.

To exit this mode, press selection button #13.

2. TOTAL NUMBER OF PRODUCTS VENDED

While in the service mode press selection button #4. The display will show "ACCOUNTING". Press selection button "C" to display the total number of products vended from this machine, which will rollover after 79,999,920. This functions is non-resettable.

3. TOTAL NUMBER OF PRODUCTS VENDED (RESET-TABLE FUNCTION)

While in the service mode press selection button #4. The display will show "ACCOUNTING". Press selection button "D" to display the total number of products vended since the last reset, which will rollover after 79,999,920.

4. RESET ALL RESET-TABLE FUNCTIONS AT ONCE

While in the service mode press selection button #4. The display will show "ACCOUNTING". Press selection button "E". The display will show "RESET". To reset all **resettable** functions only, press selection button "F". All functions will reset to "0".

5. DOWNLOAD DEX/UCS

While in the service mode press selection button #4. The display will show "DEWUCS" and the control board will **down** load the information to the hand held unit. Upon completion of the download of the resettable items, it will be necessary for the operator to then reset all of the resettable functions. The download of the control board does not automatically reset these items to 0. They must be manually reset (see step 4 above).

5. PRICE SETTING

A. Price setting of the Entire Machine

To set the price of the entire machine while in the service mode, press selection button **#5**. The control board will display "SELECTION", then you may press any selection letter and number. The control board will display the selection letter and number and the price. Using the numbers on the key pad, press the most significant digit first, then the less significant digits. Example: \$00.90. Press selection button **#9**, then press selection button **#0**. To save this price for the entire machine press selection button **#12**. To cancel an unwanted price before the fourth number is entered, press selection button **#13**.

B. Price Setting by Row

To set the price of an entire row of selections while in the service mode press selection button **#5**. The control will display "SELECTION". Then enter a selection letter and number from the row you want to set the prices on. The display will show the letter, number and current price. Using the numbers on the key pad, press the most significant number of the price first, follow by the less significant numbers. Example : \$00.90. Press selection button **#9** then press selection button **#0**. The digital display should read \$00.90. In order to save this and set the entire row to this price, press selection button **#11**. To set the next row, press the **#5** selection button, then enter the letter and number from the next row you want to set the prices on and repeat the price setting procedure. To cancel an unwanted price before the fourth number is entered press selection button **#13**.

C. Individual Price Setting

To set a single price on one item, while in the service mode, press selection button **#5**. The control board will display "SELECTION". Press the letter and number of the selection you wish to change. The selection letter and number will be displayed along with the current price. Using the numbers on the key pad, press the most significant digit first, then the less significant digits. Example: \$00.85. Press the selection button **#8**, then press the selection button **#5**. The digital display should read \$00.85. To save this price, press selection button **#10**. To set another single price, press selection button **#5** and repeat the above sequence. To cancel an unwanted price before the fourth digit is entered, press button **#13**.

NOTE: When the price is set to \$00.00, this is allowed and is a service vend (free vend). The machine can then be used as a display or show machine.

6. SERVICE VEND

A. Service Vend by Individual Selection

To test vend a vend motor or a delivery door solenoid(s), while in the service mode, press selection button **#6**. The control board will display "SELECTION". Enter the desired selection letter, followed by the number. This will be displayed with the selection price, while a vend of the motor or solenoid is attempted. If the vend is successful, the display will blank. If the vend is not successful, the control board will beep three times before blanking.

B. Service Vend by Row

To service vend an entire row of selections, while in the service mode, press selection button **#7**. The control board will display "SELECTION". Enter the letter of the desired row. The control board will display the selection number and the price while the vend is attempted, starting with the highest number selection in that row. If the vend is successful, the control board will continue with the next selection. If the vend is not successful, the control board will beep three times and continue with the next motor. This cycle will repeat until vends on all motors in the row have been attempted, then the display will blank.

C. Service Vend of Entire Machine

To service vend the entire machine of selections one time, while in the service mode, press selection button **#8**. the control board will display the selection number and price as the corresponding vend is attempted. If the vend is successful, the control board will continue on with the next motor. If the vend is not successful, the control board will beep three times and continue with the next motor. This cycle will repeat until vends on all selections in the machine have been attempted, then the display will blank.

To stop the vending of the selections press selection button **#13** and hold in until the current vend is completed.

7. POINT OF SALES MESSAGE PROGRAMMING

The machine comes preset from the factory with the message "ENJOY ONE OF OUR FINE SNACK PRODUCTS".

If you wish to change the Point of Sales message, press the service mode button on the control board, then press selection button #9. The control board will display "MESSAGE". Using the keypad overlay (provided in the large manila envelope) and following the keypad definitions, enter the new message. Menu 1 (blue characters) is the default menu. After each key entry, from either menu, the keypad will return to menu 1. To use menu 2 (red characters), SHIFT (NEXT MENU) key must be pressed prior to pressing a menu 2 key. If you enter the wrong letter, press BACK SPACE to remove that letter from message. Put two (2) spaces at the end of the message to prevent the message from running together. To save the message press "SHIFT" then press "ENTER" from within menu 2.

Note: The maximum number of characters you can enter to form a message is 53 plus two spaces at the end of the message. A space between two words is one character.

MENU 1				MENU 2	
A	G	M	S	Y	4
B	H	N	T	Z	5
C	I	O	U	0	6
D	J	P	V	1	7
E	K	Q	W	2	8
F	L	R	X	3	9
SPACE	SHIFT	BACK	•	ENTER	\$
	(NEXT MENU)	SPACE			

EXAMPLE: ENJOY OUR SNACKS". Press selection button #9, MESSAGE" appears on display. Using the overlay press the letter E, letter N, letter J, letter O, press SHIFT, press Y, press SPACE, press O, press U, press R, press SPACE, press SHIFT, press S, press N, press A, press C, press K, press SHIFT, Press S, Press SPACE, press SPACE, press SHIFT, press ENTER. The message should start scrolling when you Press the mode switch.

8. LANGUAGE SELECTION

To select the message language, while in the service mode, press selection button **#10**. The scrolling display will display "LANGUAGE". Press the letter of the language you wish to program (See list below). The language selected will be displayed, or you can program your own message using button **#11**.

Press button **#10** + button A = Italian
Press button **#10** + button B = Dutch
Press button **#10** + button C = Spanish
Press button **#10** + button D = Danish
Press button **#10** + button E = English
Press button **#10** + button F = French
Press button **#10** + button G = German
Press button **#10** + button 11 = ADD MESSAGE

Under selection button 11, the control board will display "MESSAGE 1". Using the same overlay for the Point of Sale Programming, enter the first message PLEASE INSERT EXACT MONEY in the language desired, then press SHIFT, then press ENTER. Next enter PLEASE INSERT MORE MONEY in the language you desire. Then press SHIFT, then press ENTER. Enter MAKE ALTERNATE SELECTION in the desired language then press SHIFT, then press ENTER. Now enter the message PLEASE CALL SERVICE in the language desired. Then press SHIFT, then press ENTER. The maximum length of messages one and two are thirty (30) characters each. The maximum length of messages three and four is twentyfive (25) characters.

Note: This feature will only translate these: PLEASE INSERT MORE MONEY, MAKE ALTERNATE SELECTION, PLEASE INSERT EXACT MONEY and PLEASE CALL SERVICE.

9. VEND OPTIONS

To enable or disable the vend options, while in the service mode, press selection button **#11**. The control board will display "OPTIONS". Press one of the appropriate letters listed below. After the letter has been pressed, the current state of the option will be displayed. The option may be changed by following the instructions pertaining to that option.

A. Bill Escrow (if it is a feature of the bill validator installed).

This option will allow the last bill accepted to be escrowed, provided the bill validator is capable of such a feature. To access this, while in the service mode, press selection button **#11**, then press selection button "A". The feature will be displayed with its present status. To change the status press selection button "A" again.

B. Forced Vend

This option (when turned "ON") will force the customer to complete a purchase once they have deposited money of any form. If a vend is attempted and the motor fails during this vend, the customer will be allowed to escrow the credit, regardless of the force vend status. To access this option, press selection button **#11** then press selection button :B:. The feature will then be displayed with its present status. To change the status press selection button "B" again.

C. Maximum Change Return

This option will limit the amount of change returned to the customer. The change above the limit will be given as credit toward another purchase, i.e. a multi-vend situation. To access this option press selection button **#11**, then press selection button **"C"**. The status of the option will be shown. If the option is "OFF", press selection button **"C"** again to turn it "ON". After enabling the option, wait for one second and the current limit will be displayed. This limit may be changed by pressing the most significant digit first and then the less significant digits. Press selection button **#11** to lock in this limit.

NOTE: The only time that the control board will display the amount of the limit is when the feature is first turned on. In order to check the amount set, turn the feature "OFF" and then "ON".

To exit this mode, press the service mode button.

D. TO SET CONTROL BOARD TIME AND DATE

This option will allow the control board to set the time and date for timed operations. Should you lose power to the machine, a back-up battery will maintain the correct time and date.

To access this option press selection button **#11**, then press selection button **"D"**. The current status of the option will be displayed. To change the option, release button **"D"** and press it again. The selection will then change. When the option is turned on the current time of day will be display in a 24 hour format (1 PM would be 1300) as TIME hh.mm.. A new time may be entered by pressing the selection buttons on the front of the machine and will be displayed as they are pressed. The most significant digit followed by lesser significant. Example 1325 would be entered by pressing selection button **#1**, selection button **#3** selection button **#2**, then selection button **#5**. To save this entry, press selection button **#10**. The current month will then be displayed in a numeric format as "MONTH 03" (03 = March). A new month may be entered by pressing the selection buttons. As each button is pressed it will be shown on the display. The most significant digit should be entered followed by the lesser significant digit. It is not necessary to enter the leading zeros and only the first two numbers will be used. To save this entry press selection button **#10**. The current day of the week will be displayed in a numeric format as DAY dd. The numbers start with Sunday as 01 on through to Saturday as 07. A new day may be entered by pressing the selection number keys which will be displayed as they are entered. Enter the most significant digit followed by the less significant. It is not necessary to enter leading zeros and only the first two numbers will be used. To save this entry press selection button **#10**. The current year will now be display as YEAR yy in a numeric format. A new year may be entered by pressing the selection number keys which will be displayed as they are entered. The most significant digit should be entered first followed by the less significant. To save this entry press selection button **#10**. To cancel unwanted setting before saving, press selection button **#13**.

E. SETTING TIME SHUT DOWN OF MACHINE

This option will allow the control board to shut down the entire machine four times during a 24 hour period. During these time intervals the point of sales message will read "VENDING OPERATION TO RESUME AT hh.mm."

To avoid confusion with this option when the time is set to start that is the time the machine will shut down. When the time is set to stop that is the time the machine is turned on.

To set this option after going into the service mode, press selection button **#1 1**, then press selection button **"E"**. The current on/off setting will be displayed as "TIME XXXX". To change the current on/off setting press selection button **"E"** again. With the setting to "ON" position, to program the start, stop and active days for the time to occur, wait one second and the display will continue to "1 STRT hh.mm.". A new start time (time the machine will shut down) for this interval may be entered by pressing the selection button numbers, which will be displayed as the number buttons are pressed. The most significant digit is entered first followed by the lesser significant digits. **Only** the first four numbers will be used. To save this entry press selection button **#10**. The display will continue to "1 STOPP hh.mm." A new stop time (time machine will vend again). A new stop time for this interval may now be entered by pressing the selection button numbers, which will be displayed as the number buttons are pressed. The most significant digit should be entered first followed by the lesser digits. **Only** the first four digits will be used and can be saved by pressing selection button **#10**. The display will continue to the daily on/off status (the days you want this time to occur) shown as 1 DY xxxxxx. The x's will be either a "0" for off or a "1" for on. The first x will show the status of Sunday, the next x for Monday, and so on, until Saturday. The daily status may be changed by pressing the 0 or 1 keys. Each digit will be rotated in from the left side. To save this entry press selection button **#10**. The display will continue to the

next time set up as 2STRT hh.mm. Repeat the procedure above for this set up and the two additional ones if required. When all four intervals have been programmed the control board will return to the service mode. To avoid confusion, again the start time is when the machine is going to be turned off, and the stop time is going to be when the machine is turned on.

F. ONE FREE PRODUCT SETTING

This option will allow a free product to be given to the customer at a preprogrammed interval. Setting this interval to "1" provides a free vend at every transaction "0" disables the option and the maximum valid interval is 255.

To access this option press selection button **#11**, then press selection button F. The current interval will be displayed as "Free xxx". A new interval may be entered by pressing the selection button numbers, which will be displayed as they are entered. The most significant digit is entered first followed by the lesser significant digits. It is not necessary to enter leading zeros and only the first four numbers will be displayed and used. To save this entry press selection button **#10**.

To cancel an unwanted setting before saving, press selection button **#13**.

G. PROMOTIONAL VEND SETTING

This option will allow a promotional product to be given to a customer for free in response to the purchase of another product. When enabled, purchasing selection "0" from one of the two possible promotional rows will result in both the selection chosen and a promotional item of that row to vend sequentially.

To access this option press selection button **#1 1**, then press selection button "G". This will toggle the on/off state. To program the promotional rows, after enabling the option as above, wait 1 second and the display will continue to "ROWS aa". New rows may be entered by pressing the alphabetic selection buttons. The first entry will effect the center character and the second will effect the right most character. Pressing selection button **#12** before **#10** will clear both entries. Press selection button **#10** to save the entry.

To cancel an unwanted setting before saving, press selection button **#13**.

COOLING SYSTEM INFORMATION

COOLING UNIT

The cooling system in this vendor is located in the bottom of the machine on the right hand side, and is a modular cooling unit.

The cooling system is a standard 1/3 horsepower Tecumseh.

Maximum ambient cooling temperature for this cooling unit is 88". The ideal operating environment is an air conditioned break room at 75". Unit is not recommended for outside use.

TEMPERATURE CONTROL

The temperature control is manufactured by Ranco and has been factory set to cut in (turn on) at 42 degrees and to cut out (turn off) at 34 to 36 degrees.

CAUTION: If the cut out temperature is set lower than 34 degrees the evaporator coil could ice up and may cause condensing unit failure.

REFRIGERATION UNITS USING R-134A REFRIGERANT

The condensing unit and evaporator coil have been charged with 12 ounces of R-1 34A refrigerant.

COOLING SYSTEM SPECIFICATION

PRIMARY VOLTAGE 1 1 OVAC
CURRENT DRAW BY COMPRESSOR * 5AMP

REFRIGERANT USED IN SYSTEM	R134a
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REFRIGERANT CHARGE	12 oz.
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SYSTEM EVACUATION REQUIREMENT FOR RECHARGING	250 MICRONS
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For additional information on charging a cooling system contact the Technical Service Department at Polyvend Inc,

Note: It is very important to provide the machine with sufficient air flow for cooling. Provide a minimum of six (6) inches spacing between the wall and the back of the machine.

CLEANING AND MAINTENANCE

PAINTED SURFACES

All painted surfaces and the vinyl covered product delivery door can be cleaned with a clean cloth and any common brand of household detergent. Do not use harsh abrasive materials on these surfaces, they will scratch the paint or vinyl.

GLASS ITEMS

The glass product loading door may be cleaned with any commercial window cleaner.

TRAY SURFACES

Quite often wax and oil will build up on the tray surface area. To remove this, use a wax and paraffin remover solution.

COLD FOOD SANITATION

The following are the cleaning procedures for the cold food side of the unit:

1. All surfaces that come into direct contact with food must be cleaned with warm water and a mild detergent at regular service intervals.
2. After cleaning food contact surfaces rinse with clean, potable water.
3. Sanitize food contact surfaces with a good grade chemical sanitizing solution (chlorine, iodophor, etc.)
4. Allow all food contact surfaces to air dry.

AIR SCREEN MAINTENANCE

Air intake and exhaust screens must be cleaned at regular service intervals or if the environment is very dirty it may be necessary to clear the screens more often.

The intake screen is located on the machine floor; in front of the modular cooling unit. It is very important that sufficient air is available for the cooling unit. Accumulated dirt should be brushed away monthly and nothing should be placed or stored on top of the screens that would block the air flow.

The exhaust screen is located behind the on the back wall of the machine. This screen should not require as much attention as the air intake screens, but it should be checked and cleaned as needed.

BLOWER SCREEN MAINTENANCE

The blower system is to prevent the delivery doors from fogging and the screen should be cleaned at least every three months to ensure adequate warm air is flowing over the doors.

POLYVEND SHIPPING POLICY

The following information is to assist you in assuring safe delivery of your merchandise and in expediting of freight damage claims.

Our terms of sale are F.O.B. our factory. The responsibility for damage in transit is the carrier's whether it be visible or concealed damage. We have taken every precaution to ensure safe arrival of this equipment, but our responsibility ceases the moment the shipment is turned over to the carrier.

Acceptance of this shipment by the carrier is an acknowledgment that the equipment was delivered to them in good condition and properly packed. The carrier who delivers this merchandise to your door is responsible for its safe delivery.

PROCEDURE FOR VISIBLE DAMAGE

1. IT IS VERY IMPORTANT TO INSPECT ALL FREIGHT DELIVERIES, WHETHER MACHINES OR PARTS, IMMEDIATELY. If there is any visible damage you have the right to either refuse the merchandise or accept the damaged shipment. If you accept it, make certain that you have the delivery personnel note the nature and extent of damage on the freight bill.
2. After you determine the extent and cost of the damage, notify the delivering carrier's office by phone and confirm with a written notice within 15 days requesting an inspection of the damaged merchandise. Keep a copy of the inspection request for claim purposes. Do not destroy the packing material until shipment is inspected and claim is settled.
3. When the inspector arrives, ask for a claim form. In filing a claim, you may make a cash settlement with the carrier for the full invoice price of the merchandise or contact Polyvend Inc. at 1-800-71 O-8363 and make arrangements to have merchandise returned for repair and file a claim for repair charges. Do not return "DEADHEAD". Do not claim more than the cash price of the machine, plus freight.

PROCEDURE FOR CONCEALED DAMAGE

1. If there is no visible damage, YOU MUST OPEN THE SHIPMENT WITHIN 15 DAYS AND INSPECT FOR CONCEALED DAMAGE. If there is concealed damage, notify the delivering carrier by phone immediately asking for an inspection. Confirm the request in writing and keep a copy for claim purposes. If you fail to notify the carrier within 15 days of delivery by telephone and in writing, the freight company is no longer liable for damage and will probably refuse your claim. Do not destroy packing material until shipment is inspected and claim is settled.
2. After inspection by the carrier, file a claim for damages at once. On concealed damage, unless it can be proven that the carrier is responsible for the damage, they will probably want to settle on a compromise basis. Therefore, the faster you inspect your delivery and notify the carrier, the better the chances for full settlement. If the claim is disallowed, check on the possibility of a compromise.

PROCEDURES FOR SHORTAGES

1. If the shipment delivered to you is not in accordance with the quantity of cartons shown on your receipt, do not accept it until shortages are noted on the Freight Bill or Bill of Lading and signed by the truck driver. Failure to do this releases the carrier from any responsibility.

2. If the shorted item is not delivered within a reasonable time, file a claim with the delivering carrier for the invoice or cash price of that item.

NOTE: Claims for loss or damage will NOT BE DEDUCTED FROM YOUR INVOICE while you wait adjustment of such claims.

TROUBLESHOOTING

CAUTION

DISCONNECT POWER TO MACHINE BEFORE WORKING ON, CHANGING, DISCONNECTING OR CONNECTING ANY ELECTRICAL COMPONENTS BY REMOVING THE FUSES, TURNING OFF THE POWER TO THE MACHINE AT THE WALL OUTLET OR UNPLUGGING THE MACHINE.

CAUTION: When removing the control board extreme care should be taken to avoid introducing static electricity into or onto the board. Under no circumstances should the control board be placed on something made of metal. To remove the control board disconnect power to the board, remove the control board cover, unplug the harness and remove the screws mounting the control board to the door.

POWER

A. SYMPTOM: No lights on in the machine.

1 Possible Cause: No voltage to the wall outlet where the machine is plugged in.

1 Possible Solution: Using a voltmeter test the wall outlet for the proper voltage. The voltage should read 110 VAC +5 to -5 volts. If you are not sure how to test the voltage at the wall outlet ask the building electrician for assistance.

2 Possible Cause: Vending machine not plugged into the wall outlet,

2 Possible Solution: Check the power plug for the machine and insure that it is plugged into the outlet.

3 Possible Cause: Blown fuse or tripped circuit breaker in power box located in the bottom of the machine.

3 Possible Solution: Replace blown fuse or reset circuit breaker.

B. SYMPTOM: The display board is blank.

1 Possible Cause: Defective door switch.

1 Using an ohmmeter test the door switch for proper operation. Also look at the switch mounting bracket to make sure bracket is not bent and that the wire has not been knocked off.

2 Possible Cause: Blown fuse or tripped circuit breaker located on the main power box.

2 Possible Solution: Replace defective fuse or reset circuit breaker.

3 Possible Cause: Defective transformer.

3 Possible Solution: Using a voltmeter test the output from the transformer at the power box. The output may be tested at the plug located on the front of the power box, the third plug from the left. Measure across the red and yellow wires. It should have approximately 29 volts AC. If the voltage is less than this the transformer is defective.

CAUTION: WHEN TESTING ELECTRICAL VOLTAGES USE EXTREME CARE AS NOT TO GET ELECTRICALLY INJURED. WHEN CHANGING ANY ELECTRICAL COMPONENTS POWER MUST BE REMOVED FROM THE MACHINE BEFORE ANY WORK IS TO BE PERFORMED, BY UNPLUGGING THE MACHINE OR TURNING POWER OFF TO OUTLET WITH THE RESPECTIVE CIRCUIT BREAKER.

4: Possible Cause: Defective wiring or wiring connections.

4: Possible Solution: Test the electrical circuit from the control board to the display. This may be tested by using an ohmmeter with power removed. Check to ensure that there is electrical continuity in each wire.

HELIX DRIVE MOTOR

A. Symptom: A selection fails to make a vend

1: Possible Cause: The selection spiral assembly is jammed and will not complete its full cycle.

1: Possible Solution: Check to see if the product that is loaded in the helix is free from obstructions on both sides. Check to see if also the product is not too tight for the helix size being used. This may be done by lifting the product up out of the helix by hand. If the helix is also lifted off the tray, then that product is too tight for that helix size. Move the product to a larger size helix so it may vend freely.

NOTE: Any time a motor is taken out of service, the motor must be put back into **service** by service vending the selection to allow the control board to recognize the motor.

2: Possible Cause: The displayed price on the column shelf is not the same as the control board memory for that selection.

2: Possible Solution: Place the machine in the service mode. Follow the instructions for setting the prices. When you make the selection that you want to check the price to ensure the current price is the same as the price on the shelf for that selection. If not, change the price to match the price on the shelf and test vend that selection using money.

3: Possible Cause: Defective vend motor.

3: Possible Solution: To test to see if a vend motor is working, unplug the tray with the defective motor and plug the tray into a known good location. Now test vend the tray assembly with the bad motor. If the motor runs in the new tray location, then we know that the motor is good. To test vend a single selection of a complete tray assembly, see the section on service vending a selection. If the motor is defective, replace the defective motor and service vend the new motor two times to insure proper operation and recognition by the control board.

4: Possible Cause: Defective control board.

4: Possible Solution: Replace control board.

NOTE: When you replace the control board ALWAYS DISCONNECT POWER TO THE EQUIPMENT. After the control board is installed, apply power, go into the service mode and press selection button #2, then press selection button #3. You have now aligned the control board with the motors. It will be necessary now to reset prices (see section setting prices).

5: Possible Cause: Defective wiring or wiring connections.

5: Possible Solution: Using the schematic on in the back of the manual test the electrical circuit from the control board to the vend motor. This may be tested by using an ohmmeter with power removed or using a voltmeter if power is left on.

B. SYMPTOM: A SELECTION MOTOR RUNS SLOWLY

1: Possible Cause: The selection helix assembly is dragging and will not run at a normal speed.

1: Possible Solution: Check to see if the product that is loaded in the helix is free from obstructions on both sides. Check to see if also the product is not too tight for the helix size being used. This may be done by lifting the product up out of the helix by hand. If the helix is also lifted off the tray, then that product is too tight for that helix size. Move the product to larger size helix so it may vend freely.

2: Possible Cause: The power from the transformer is low causing the power supplied to the motors from the control board to be low.

2: Possible Solution: Using a voltmeter test the output from the transformer at the junction box the third plug from the left. The output may be tested from the yellow to the red wires. With a voltmeter test to see what the voltage is at the motor. It should be 24 VDC. CAUTION: WHEN TESTING ELECTRICAL VOLTAGES, USE EXTREME CARE NOT TO GET ELECTRICALLY INJURED.

3: Possible Cause: Defective vend motor.

3: Possible Solution: To test to see if a vend motor is working, unplug the tray with the defective motor and plug the tray into a known good location. Now service vend the tray assembly with the bad motor. If the motors run in the new tray location, then we know that the motor is good. To service vend a single selection or a complete tray assembly, see section on test vending. If the motor is defective, replace the defective motor and service vend the new motor twice to insure proper operation

4: Possible Cause: Defective control board.

4: Possible Solution: Replace control board.

NOTE: When you replace the control board ALWAYS DISCONNECT POWER TO THE EQUIPMENT. After the control board is installed, apply power, go into the service mode and press selection button #2, then press selection button #3. You have now aligned the control board with the motors. It will also be necessary to set your prices.

5: Possible Cause: Defective wiring or wiring connections,

5: Possible Solution: Using the schematic in the back of the manual test the electrical circuit from the control board to the vend motor. This may be tested using an ohmmeter with power removed or using a voltmeter if power is left on. See Note 3.

NOTE 3: The motors in the machine are arranged in a 7 X 10 matrix. This means that all motors have a wire common to all other motors in that row. Example: All motors in horizontal row "A" have a violet wire in common in the main motor harness from the control board. Likewise, all the motors in a vertical column have a wire in common. Example: All motors in column 2 have a white wire in common in the main motor harness from the control board.

The following is the wire color guide for the motor matrix in the main motor harness:

	Wire color
Row "A"	Violet
Row "B"	Gray
Row "C"	Orange
Row "D"	Yellow
Row "E"	Green
Row "F"	White / Brown
Row "G"	White/Blue
Row "H"	Blue

The tray harness uses only the black and white stripped wire as the common wire in any row.

Column "1"	White / Green
Column "2"	White
Column "3"	White / Black
Column "4"	Red
Column "5"	Brown
Column "6"	Black
Column "7"	White / Orange
Column "8"	White / Violet
Column "9"	White / Yellow
Column "10"	White / Red

ERROR CODES

1. Error 1 = Too little motor current
2. Error 2 = Too much time to complete the vend (6 seconds).
3. Error 3 = The control board has lost communications with the changer (changer has malfunctioned).
4. Error 4 = EEPROM sum check error.

Note: Error 4 = Prices have been inadvertently altered and all prices have automatically been set to maximum by the control board. To clear these prices, reset prices as desired.

Note: The wiring harness on each tray is the same. The black and white striped wire is the common wire for that tray and each colored wire is the respective wire for that motor.

C. SYMPTOM: TWO OR MORE MOTORS RUN AT THE SAME TIME.

1: Possible Cause: A diode or diodes on the motor are defective.

1: Possible Solution: Unplug one tray assembly at a time and test vend one selection that was running with another selection. If the two motors still run together, then plug the previous tray assembly back in and unplug the next tray in line. Once the problem stops, plug the defective tray assembly back in and start unplugging one motor on that tray assembly at a time. With one motor unplugged service vend the selection that was running with another selection. Continue with the one motor at a time until the problem stops then replace the last motor you unplugged when the problem stopped.

SELECTION KEY PAD

A. SYMPTOM: When a letter or number is pressed, a different letter or number appears on the display or no letter or number appears on the display.

Possible Cause: Defective keypad or bent bezel assembly.

1: Possible Solution: Attempt to change a price of a selection or check a price of a selection using the selector pad. If you are unable to change a price or check a selection the keypad is defective. Check the bezel to make sure it is not warped or bent.

2: Possible Cause: Defective display.

2: Possible Solution: Replace display.

CAUTION: BE SURE POWER IS REMOVED FROM CONTROL BOARD BEFORE REMOVING AND REPLACING COMPONENT.

3: Possible Cause: Defective control board.

3: Possible Solution: Replace control board.

NOTE: When you replace the control board always disconnect power to the equipment. After the control board is installed, apply power, go into the service mode and press selection button **#2**, then selection button **#3**. You have now aligned the control board with the motors. It will be necessary to reset your prices see section on setting prices.

4: Possible Cause: Defective wiring or wiring connections.

4: Possible Solution: Using the schematic in the back of the manual, test the electrical circuit from the control board to the changer. This test may be done by using an ohmmeter with power removed.

CHANGER

A. SYMPTOM: When coins are inserted into the machine they fall through to the coin return cup.

1: Possible Cause: Changer not plugged in securely to changer receptacle.

1: Possible Solution: Check to make sure changer is plugged into the changer receptacle properly.

2: Possible Cause: Defective changer.

2: Possible Solution: Replace changer.

CAUTION: BE SURE POWER IS REMOVED FROM CONTROL BOARD BY THE DOOR SWITCH BEFORE REMOVING AND REPLACING CHANGER.

3: Possible Cause: Defective control board;

3: Possible Solution: Replace control board:

NOTE: When you replace the control board always disconnect power to the equipment. After the control board is installed, apply power, go into the service mode and press selection button #2, then press selection button #3. You have now aligned the control board with the motors. It will be necessary to reset prices, see section on setting prices.

4: Possible Cause: Defective wiring or wiring connections.

4: Possible Solution: Using the schematic in the back of the manual, test the electrical circuit from the control board to the changer. This test may be done by using an ohmmeter with power removed.

B: SYMPTOM: Changer will not pay back change.

1: Possible Cause: Changer will not kick coins out of coin tubes.

1: Possible Solution: Try to payout change out of the changer. If changer makes a clicking noise, check to see if a coin is jammed in the changer slide or if the slides are dirty.

2: Possible Cause: No coins in the coin tubes.

2: Possible Solution: Fill coin tubes then test payout.

3: Possible Cause: Defective changer.

3: Possible Cause: Replace changer.

CAUTION: BE SURE POWER IS REMOVED FROM CONTROL BOARD BY THE DOOR SWITCH BEFORE REMOVING AND REPLACING COMPONENT.

4: Possible Cause: Defective control board

4: Possible Solution: Replace control board.

NOTE: When you replace the control board always disconnect power to the equipment. After the control board is installed, apply power, go into the service mode and press selection button #2, then press selection button #3. You have now aligned the control board with the motors. It will be necessary to reset prices, see section on setting prices.

5: Possible Cause: Defective wiring or wiring connections.

5: Possible Solution: Using the schematic in the back of the manual, test the electrical circuit from the control board to the changer. This test may be done by using an ohmmeter with power removed.

C. SYMPTOM: Changer accepts coins but the credit does not register on the display.

1 Possible Cause: Defective control board

1 Possible Solution: Replace control board.

CAUTION: BE SURE POWER IS REMOVED FROM CONTROL BOARD BY THE DOOR SWITCH BEFORE REMOVING AND REPLACING COMPONENT.

2: Defective changer.

2: Replace changer.

CAUTION: BE SURE POWER IS REMOVED FROM CONTROL BOARD BY THE DOOR SWITCH BEFORE REMOVING AND REPLACING COMPONENT.

3: Defective wiring or wiring connections.

3: Using the schematic in the back of the manual, test the electrical circuit from the control board to the changer. Also test the wiring from the display to the control board. This test may be done by using an ohmmeter with power removed.

BILL VALIDATORS

NOTE: When using certain validators, it may be necessary to set the validator's switches on the validator to operate in the machine. If you are not sure, contact Technical Services at Polyvend Inc.

A: SYMPTOM: Machine will not take dollar bills.

1: Possible Cause: Not enough change in the changer.

1: Possible Solution: Fill coin tubes with enough change to work the bill acceptor.

2: Possible Cause: Defective low coin tube sensor or sensor is out of holder.

2: Possible Solution: Replace changer.

3: Possible Cause: No power to bill validator.

3: Possible Solution: See schematic in back of manual, using a voltmeter test power to the validator.

4: Possible Cause: Defective validator.

4: Possible Solution: Replace validator.

CAUTION: BE SURE POWER IS REMOVED FROM CONTROLBOARD BY THE DOOR SWITCH BEFORE REMOVING AND REPLACING COMPONENT.

5: Possible Cause: Defective control board.

5: Possible Solution: Replace control board.

NOTE: When you replace the control board always disconnect power to the equipment. After the control board is installed, apply power, go into the service mode and press selection button **#2**, then press selection button **#3**. You have now aligned the control board with the motors. It will be necessary to reset prices, see section on setting prices.

CAUTION: BE SURE POWER IS REMOVED FROM CONTROL BOARD BY THE DOOR SWITCH BEFORE REMOVING AND REPLACING COMPONENT.

6: Possible Cause: Defective wiring or wiring connections.

6: Possible Solution: Using the schematic in the **back** of the manual, test the electrical circuit from the control board to the bill validator. This test may be done by using an ohmmeter with power removed.

CAROUSEL ASSEMBLY

A. SYMPTOM: The carousel will not rotate when the cold food (Press to View) button is pressed.

Possible Cause: A delivery door is open or part way open for a cold food selection.

1: Possible Solution: Make sure all delivery doors are closed.

2: Possible Cause: Bad or incorrectly adjusted door switch on solenoid assembly or switch arm not adjusted properly. Try inside loading button. If carousel rotates problem is in door side of carousel rotation system.

2: Possible Solution: Test the door switches . You can lift up on the arm of the door switch and an audible click should be heard. If not adjust the switch until a click is heard. If the switch continues to not operate check the switch out with an ohmmeter and replace if defective.

CAUTION: BE SURE POWER IS REMOVED FROM CONTROL BOARD BY THE DOOR SWITCH BEFORE REMOVING AND REPLACING COMPONENT.

3: Possible Cause: The outside carousel (Press to View) key pad is defective.

3: Possible Solution: Test the carousel rotate button (Press to View). Should hear carousel relay click inside of power box assembly in bottom of machine. If not, key pad is defective. Replace key pad.

4: Possible Cause: Defective wiring or wiring connections.

4: Possible Solution: Inspect wire harness for bad connection or break from the solenoid assembly back to the power box and from the solenoid assembly to the carousel motor.

5: Possible Cause: Defective carousel rotation relay located inside of power box.

5: Possible Solution: When you test the (Press to View) bar (red bar just below selection buttons), you should be able to hear relay click. If relay fails to close replace relay.

B. SYMPTOM: The carousel keeps rotating when the carousel “Press to View” bar or the loading button is released.

1: Possible Cause: Stepping switch on carousel motor out of adjustment.

1: Possible Solution: Adjust stepping switch by loosening the four screws on top of the carousel motor assembly attaching the motor to the housing and move the motor towards the switch. Then tighten the screws and check the motor.

2: Possible Cause: Defective stepping switch on carousel motor assembly.

2: Possible Solution: Test switch on the carousel drive motor by using an ohmmeter with power removed.

3: Possible Cause: The outside carousel “Press to View” button is defective.

3: Possible Solution: Test the carousel “Press to View” button. This test may be done by using an ohmmeter with power removed. Replace switch if defective.

4: Possible Cause: Carousel motor break may be defective allowing carousel to continue rotating.

4: Possible Solution: Replace carousel motor if defective.

CAUTION: BE SURE POWER IS REMOVED FROM THE MACHINE BEFORE TESTING, REMOVING OR REPLACING ANY ELECTRICAL COMPONENTS.

COOLING SYSTEM

A. SYMPTOM: The compressor will not turn on.

- 1 Possible Cause: Cooling unit is not plugged into the power box located in the bottom of the machine.
- 1 Possible Solution: Check to make sure that the cooling unit is plugged into the power box.
- 2: Possible Cause: The fuse or circuit breaker is blown or tripped on the power box located in the bottom of the machine.
- 2: Possible Solution: Reset circuit breaker or replace defective fuse.
- 3: Possible Cause: Defective compressor starter.
- 3 : Possible Solution. Replace compressor starter.

CAUTION: BE SURE POWER IS REMOVED FROM THE MACHINE BEFORE WORKING ON ANY ELECTRICAL COMPONENTS IN THIS MACHINE BY UNPLUGGING THE MACHINE OR TURNING POWER OFF TO THE OUTLET THE MACHINE IS PLUGGED INTO.

- 4: Possible Cause: Defective thermostat control.
- 4: Possible Solution: Replace defective part as required,
- 5: Possible Cause: Defective compressor unit.
- 5: Possible Solution: Take the cooling unit to your nearest refrigeration service center for repair. If problems arise, please call the Polyvend Technical Service Department.
- 6: Possible Cause: Defective wiring or wiring connections.
- 6: Possible Solution: Check the electrical circuit from the power box to the cooling unit. This test may be done by using an ohmmeter with power removed.

B. SYMPTOM: The compressor will not shut off.

- 1: Possible Cause: The temperature in the cold food cabinet is too warm and never gets cold.
- 1: Possible Solution: Take a thermometer that is accurate and check the temperature inside the cabinet. If the inside temperature is too warm, above 45 degrees the cooling system should be checked out by a qualified refrigeration person to determine the reason for failing to cool.
- 2: Possible Cause: Defective thermostat control
- 2: Possible Solution: Test the thermostat control using an ohmmeter with power removed. Replace if defective.

HEALTH SAFETY CONTROL

SYMPTOM: Every time you make a cold food selection the display says “Please Make Another Selection”.

1: Possible Cause: The health safety has turned the cold food side off.

1: Possible Solution: Check to make sure the cold food section temperature is below 45 degrees. If the temperature is above 45 degrees you may need to check the cooling unit for proper operation. NOTE: MAKE SURE MACHINE HAS ADEQUATE AIR CIRCULATION IN THE REAR OF THE MACHINE. MACHINE SHOULD BE AT LEAST 6 INCHES FROM THE WALL. If the cold food cabinet is below 45 degrees, then place a jumper wire from one side of the health safety switch terminal to the other side of the health safety switch terminal, then reset the health control timer. If the machine operates properly for two days after doing this, then replace the health safety switch. If the cold food side continues to turn off, then it will be necessary to determine if the unit is turning off after resetting the health timer is before or after a half hour has gone by. If the unit turns off before a half hour has gone by then the health safety door switch may be out of adjustment or defective. This switch is located in the lower left hand corner. This switch is used to start a 30 minute clock on the control board. If the temperature of the cold food cabinet is not below 45 degrees after 30 minutes has passed, the health safety switch will turn the cold food side off. If the health safety turns off after a half hour, then the control board is defective and must be replaced. REMEMBER TO REMOVE THE JUMPER FROM THE HEALTH SAFETY SWITCH AFTER PROBLEM HAS BEEN RESOLVED. IF PROBLEMS ARISE, PLEASE CALL THE TECHNICAL SERVICE DEPARTMENT AT POLYVEND INC.

REFRIGERATION SYSTEM THEORY OF OPERATION

BASIC REFRIGERATION PRINCIPLES

A refrigeration system is principally involved in the process of transferring heat. Heat is removed from the vended-product area of the cabinet, and is transferred to the condenser, where it is dissipated. With vending equipment, large quantities of heat must be transferred economically, efficiently, and repeatedly in a continuous fashion, without loss of refrigerant gas, over a long period of time. The most common type of refrigeration system in vending is the vapor-compression (or simple-compression) cycle system. This system consists primarily of three elements: A compressor, an evaporator, and a condenser, joined together as a sealed system.

In the vapor-compression system, there are two pressures present: Low (evaporating) pressure and high (condensing) pressure. The refrigerant gas acts as the transport medium in which heat is transferred from the evaporator to the condenser, where heat is dissipated into ambient air. A change of state occurs as the refrigerant changes from liquid to vapor and back to liquid again, allowing the refrigerant to absorb and discharge large quantities of heat in an efficient manner.

The basic vapor-compression cycle occurs as follows: in the evaporator, the refrigerant boils (evaporates to vapor) at a temperature sufficiently low enough to absorb heat from the cabinet space being cooled. The boiling temperature is controlled by the pressure maintained in the evaporator (the higher the pressure, the higher the boiling point). The compressor removes vapor, via suction lines, from the evaporator, as it is formed, at a rate sufficiently rapid enough to help maintain the desired pressure. The compressor takes the low-pressure vapor and compresses it, increasing both the pressure and temperature of the vapor. This hot high-pressure gas is forced out of the compressor discharge valve and into the condenser. Upon reaching the condenser, the refrigerant dissipates its heat and condenses into a liquid. This liquid, in turn, flows from the condenser back to the evaporator, to repeat the cycle.

REFRIGERATION SYSTEM OPERATION

The general cycle described on page 41 occurs within the refrigeration system fitted in Polyvend equipment. The following is a detailed explanation of the function of the various components in the system.

As the temperature within the cabinet increases, the liquid contained in the temperature control feeler bulb (thermostat sensor) also rises in temperature, and in doing so, expands. This expansion increases the pressure against the temperature control bellows, and actuates the temperature control switch. This switch applies power to the compressor and the condenser fan motor. The condenser fan pulls air through the condenser coil, removing the heat from the refrigerant vapor from inside the coils. The compressor pulls low pressure refrigerant vapor from the evaporator and compresses it, increasing both its temperature and pressure. This high-temperature/pressure vapor is expelled to the condenser, where the vapor sheds its excess heat, as drawn off by the airflow, through the condenser fins, created by the condenser fan. The cooled gas in the condenser turns into a liquid, which is pumped via pressure from the compressor through the drier, which removes any water and particles from the liquid refrigerant. This liquid is then forced through the expansion valve, which acts like a throttle for the system, controlling the flow rate of the liquid refrigerant into the evaporator. Airflow is circulated throughout the cabinet by the evaporator fan, which pulls airflow through the coils and fins of the evaporator. Any excess heat present in the airflow is drawn off by the liquid refrigerant, which evaporates, and is in turn, pulled via the compressor through the accumulator, which traps and allows for the evaporation of any liquid refrigerant leaving the evaporator. The vapor is pulled down in the suction line to the compressor. The falling temperature in the cabinet eventually cools the liquid in the temperature control feeler bulb, condensing the liquid inside, reducing its pressure, which releases the pressure against the temperature-control bellows. This reduction deactivates the switch inside, cutting off power to the compressor and condenser-fan motor.

COOLING SYSTEM SETUP AND ADJUSTMENT

The refrigerated side of the Polyvend Combo machine is regulated by the temperature control, located in the bottom of the machine on the right hand side on the front of the cabinet of the modular cooling unit. The cooling unit is not set from the factory for the temperature to run from between 36 and 38 degrees, so adjustment is normally required. Should you need to adjust the thermostat, allow the unit to cool down for one hour and then make only small adjustments approximately $\frac{1}{8}$ of a turn at a time ($\frac{1}{8}$ of a turn is 2 degrees of temperature change). To adjust the unit colder turn the slotted screw clockwise $\frac{1}{8}$ of a turn. To adjust the unit so that it is warmer turn the slotted screw counter clockwise $\frac{1}{8}$ of a turn and wait for the unit to balance out (about 45 minutes).

Check that the condenser and evaporator fans run freely and do not make excessive noise, which might indicate an obstruction to the fan blade. Check to make sure that the door gasket is sealing to the cabinet.

NOTE: Make sure that the thermostat control feeler bulb is positioned in the air flow from the evaporator and not resting against any metal surfaces causing a false reading. Should be mounted in the plastic clip in the rear wall area behind the carousel.

SOLENOID COVER PANEL REMOVAL

At some time it may be necessary to remove the cover over the solenoids for service or maintenance located on the back side of the cold food door. To remove the cover open the front door of the machine. Then open the inside cold food door. Located on the back side of the cold food door is the solenoid cover. Take hold of the solenoid cover at the top and bottom and lift up firmly on the panel. The panel should move upward about 1/2" allowing you to then remove the panel. Set the cover to the right out of the way. To reinstall the cover, reposition the cover, making sure that all points are latching. Slide the cover downward about 1/2". Make sure that the cover is securely latched in place. If one of the latches is missed the cover may rub on the carousel trays in that area. Close the front door and ensure that the cover is not rubbing against the carousel.

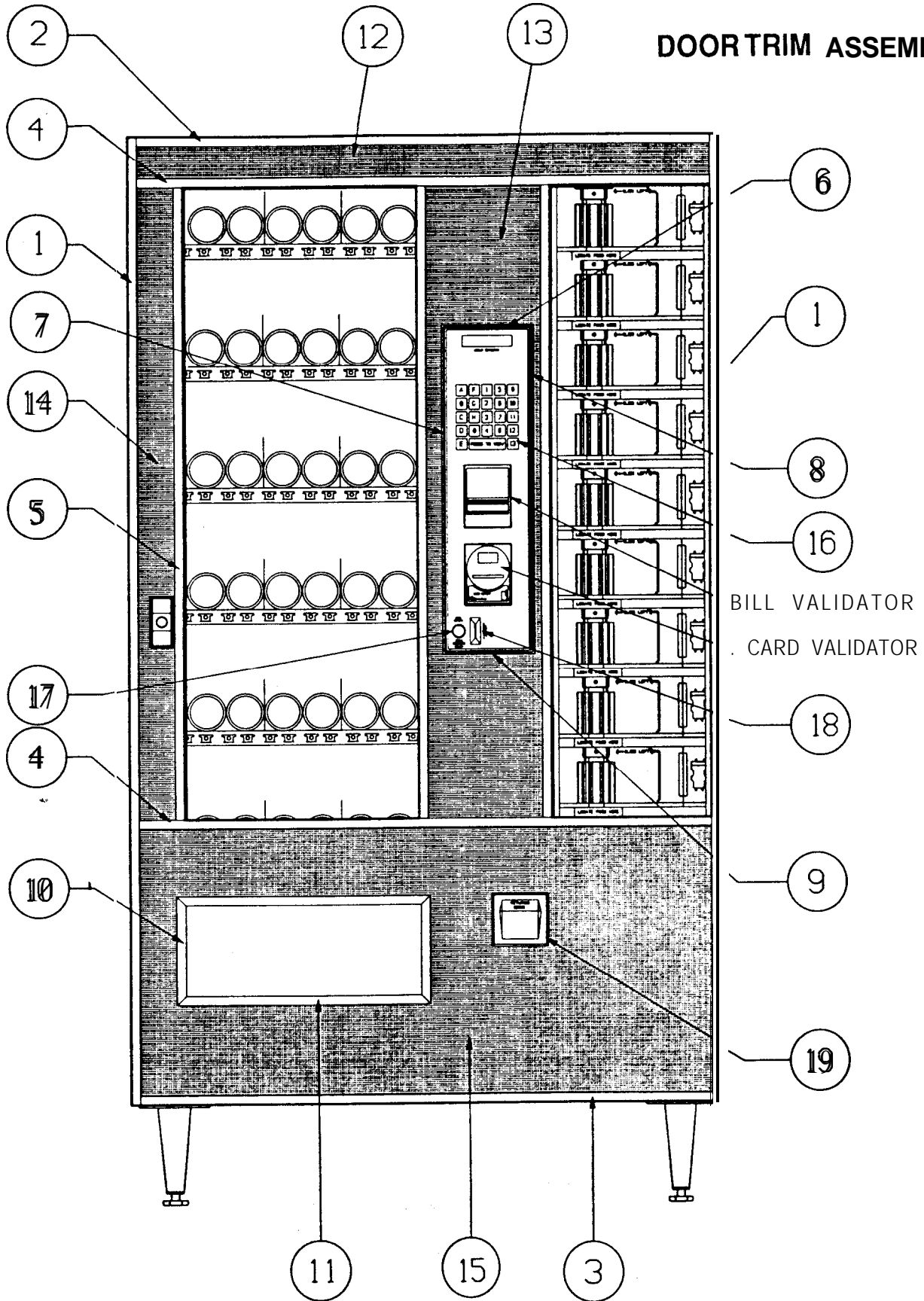
CHILLER ASSEMBLY REMOVAL

To remove the chiller assembly from the machine, unplug the cooling unit from the power box. In the lower left hand corner in front of the chiller is a metal clip held in place with a screw. Remove the screw and clip, take the screw out of the door stop and open the front door fully to prevent the chiller from hitting the door. On the left hand side of the chiller unit in the front area, in the bottom of the machine is the lever for lowering the cooling unit. Take hold of the lever and lift it up. The cooling unit will drop down in the front. Unplug the chiller and open the harness wire guide. You can then lift up on the unit and slide it out the front of the machine. The gasket material may stick to the bottom of the cabinet and it may be necessary to clean this area once unit is removed. Caution should be used to avoid catching the wiring harness above on the cooling unit as it is removed.

To install the replacement unit make sure the gasket material around each opening is clean and has a small amount of talcum powder on it to allow the gasket to slide and prevent sticking. Caution should be used when sliding the cooling unit into the machine to avoid the back gasket catching on the back opening and rolling the gasket out of place. Ensure that the wiring harness above the cooling unit does not catch on the cabinet when the unit is being installed. Install the replacement unit by sliding the unit in with the power cord facing you. Once the unit is in position in the chiller rack, push down on the lowering lever and the cooling unit will rise up and seal the openings to the refrigerated area. Install the retaining clip **and** screw on the left front corner. Make sure that the cooling unit is lined up with the cabinet openings and that there is a good seal around the outlet not allowing cold air to escape. Plug in the service power cord and loop the power cord so it can not get caught under the cooling unit. Make sure the harness above the cooling unit did not get caught in the front gasket. Allow the unit to run one hour before making adjustments to the cooling unit thermostat. The unit should be set up to run between 36° to 38°. Failure to properly adjust the cooling unit thermometer may cause problems and the unit not to cool properly.

DIAGRAMS AND PARTS LISTS

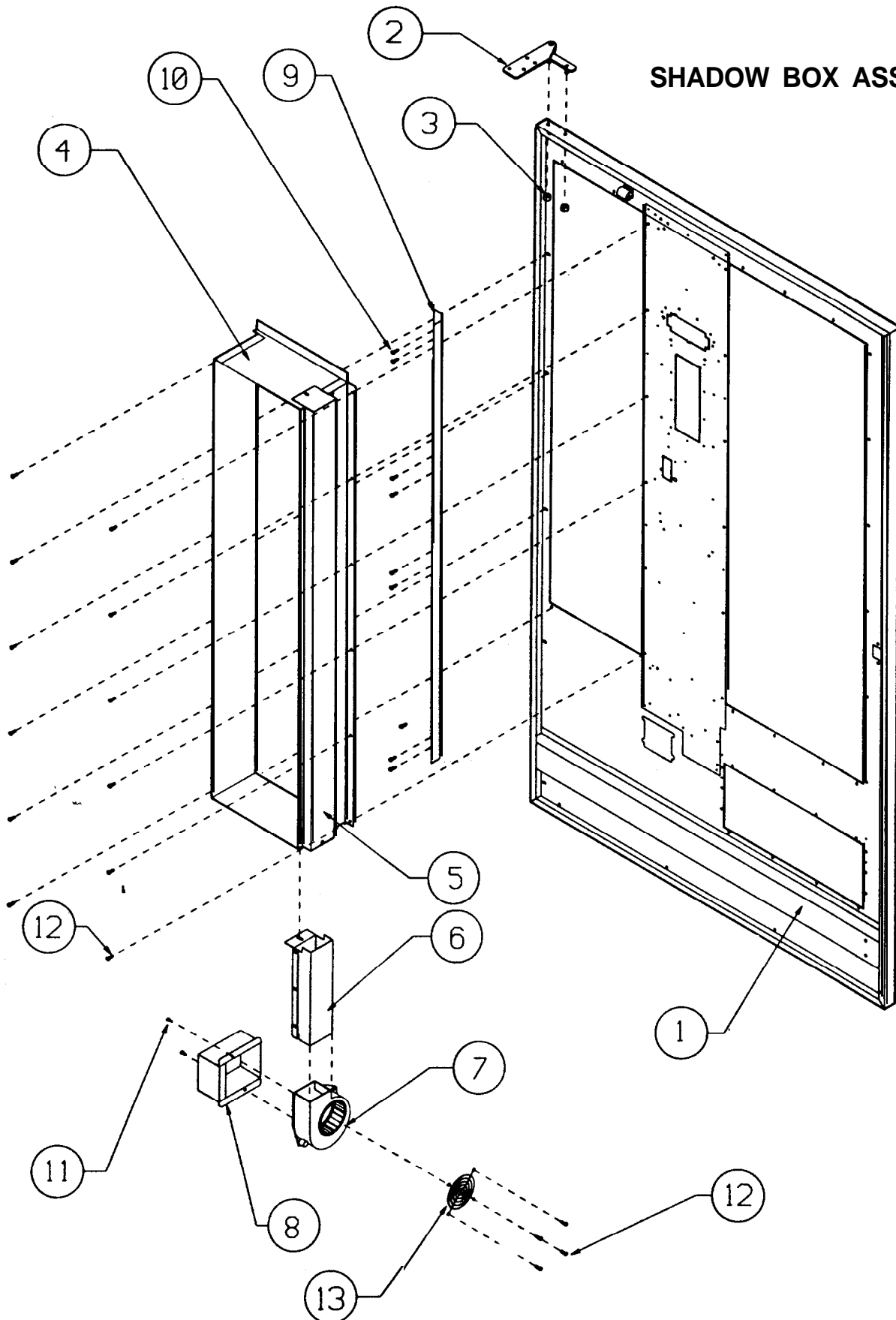
DOOR TRIM ASSEMBLY



PARTS LIST DOOR TRIM ASSEMBLY (LEKTRO-VEND)

ITEM	DESCRIPTION	PART NO.	QTY
1	DOOR FRAME TRIM SIDES	150-2022	2
2	DOOR FRAME TRIM END	240-2010	1
3	DOOR FRAME TRIM END	240-2000	1
4	HORIZONTAL DOOR TRIM	240-2011	2
5	VERTICAL DOOR TRIM	170-2026	3
6	BEZEL TRIM TOP	098-4320	1
7	BEZEL TRIM LEFT HAND	098-4317	1
8	BEZEL TRIM RIGHT HAND	098-4317	1
9	BEZEL TRIM BOTTOM	098-4320	1
9A	BEZEL DECAL LEKTRO-VEND	098-8168	1
10	DELIVERY COMPARTMENT VERTICAL TRIM	220-2007	2
11	DELIVERY COMPARTMENT HORIZONTAL TRIM	200-2015	2
12	TRIM PANEL TOP	241-4018	1
13	TRIM PANEL CENTER	098-4357	1
14	TRIM PANEL LEFT HAND	21 0-41 28	1
15	TRIM PANEL BOTTOM	098-4390	1
16	BUTTON SET	098-5293	1
17	COIN REJECT BUTTON	21125	1
18	COIN INLET	17948	1
19	COIN RETURN FRONT	001-2003SIL	1
20	DECAL LEKTRO-VEND BEZEL	098-8168	1

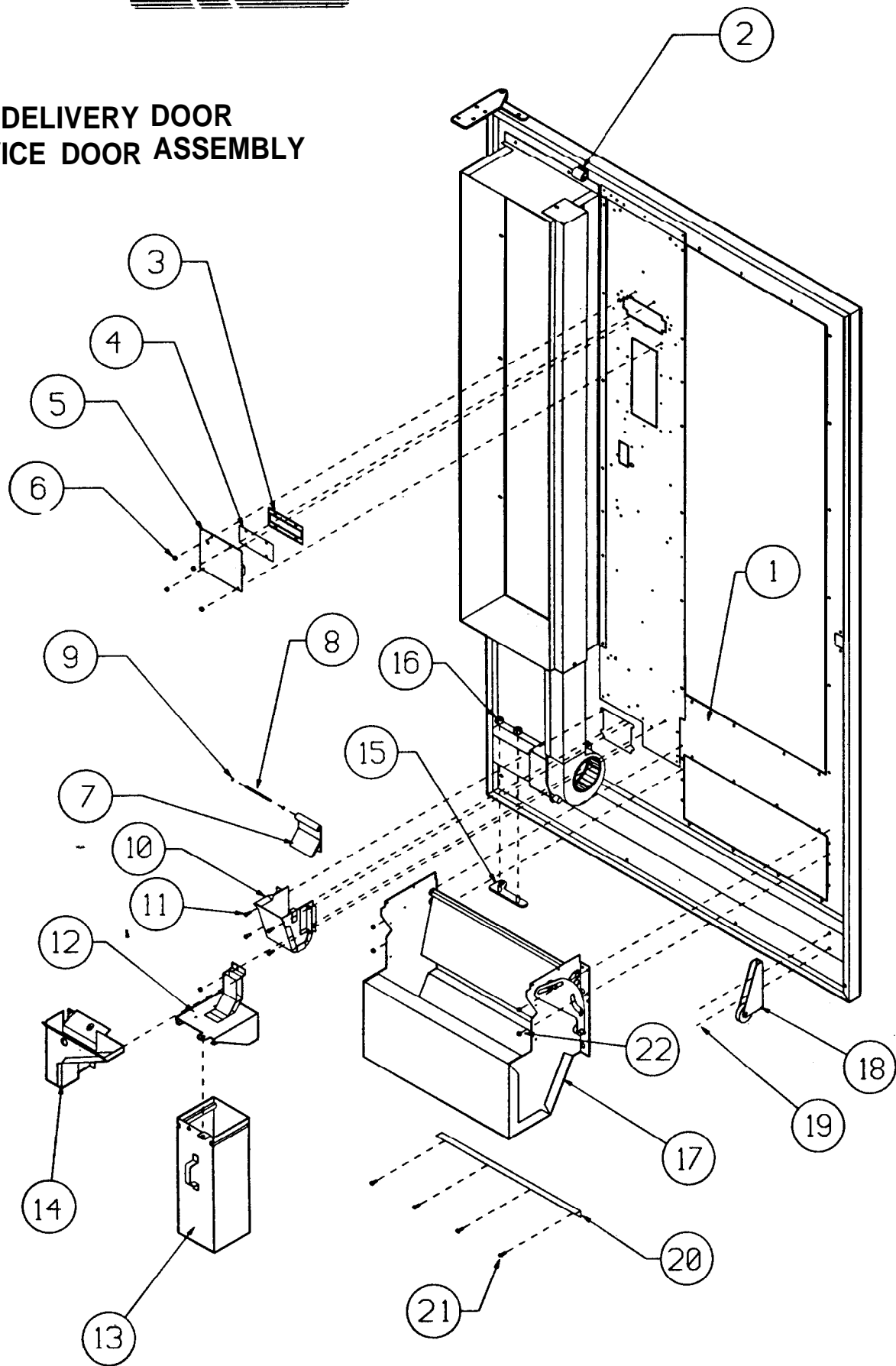
SHADOW BOX ASSEMBLY



**PARTS LIST
SERVICE DOOR
SHADOW BOX ASSEMBLY**

ITEM	DESCRIPTION	PART NO.	QTY
1	DOOR W/A INTERNATIONAL CONTROLLER	098-5287	1
2	TOP HINGE ASSEMBLY	150-5316BLK	1
3	NUT 1/4-20 KEPS	N20C2520	4
4	SHADOW BOX W/A COMBO	098-5216	1
5	CHUTE ASSEMBLY AIR	098-5273	1
6	BLOWER MOUNT ASSEMBLY	098-5376	1
7	SHADOW BOX FAN	097-8004	1
8	MOTOR COVER	098-4331	1
9	SHADOW BOX W/A ANGLE, BLACK	098-5098	1
10	SCREW #6-20 X 1/2"	S40C620-8	23
11	SCREW #8-18 X 3/8"	1298BLK	2
12	POINTED SCREW	S39C818-10P	20
13	BLOWER FAN GUARD	098-8162	1

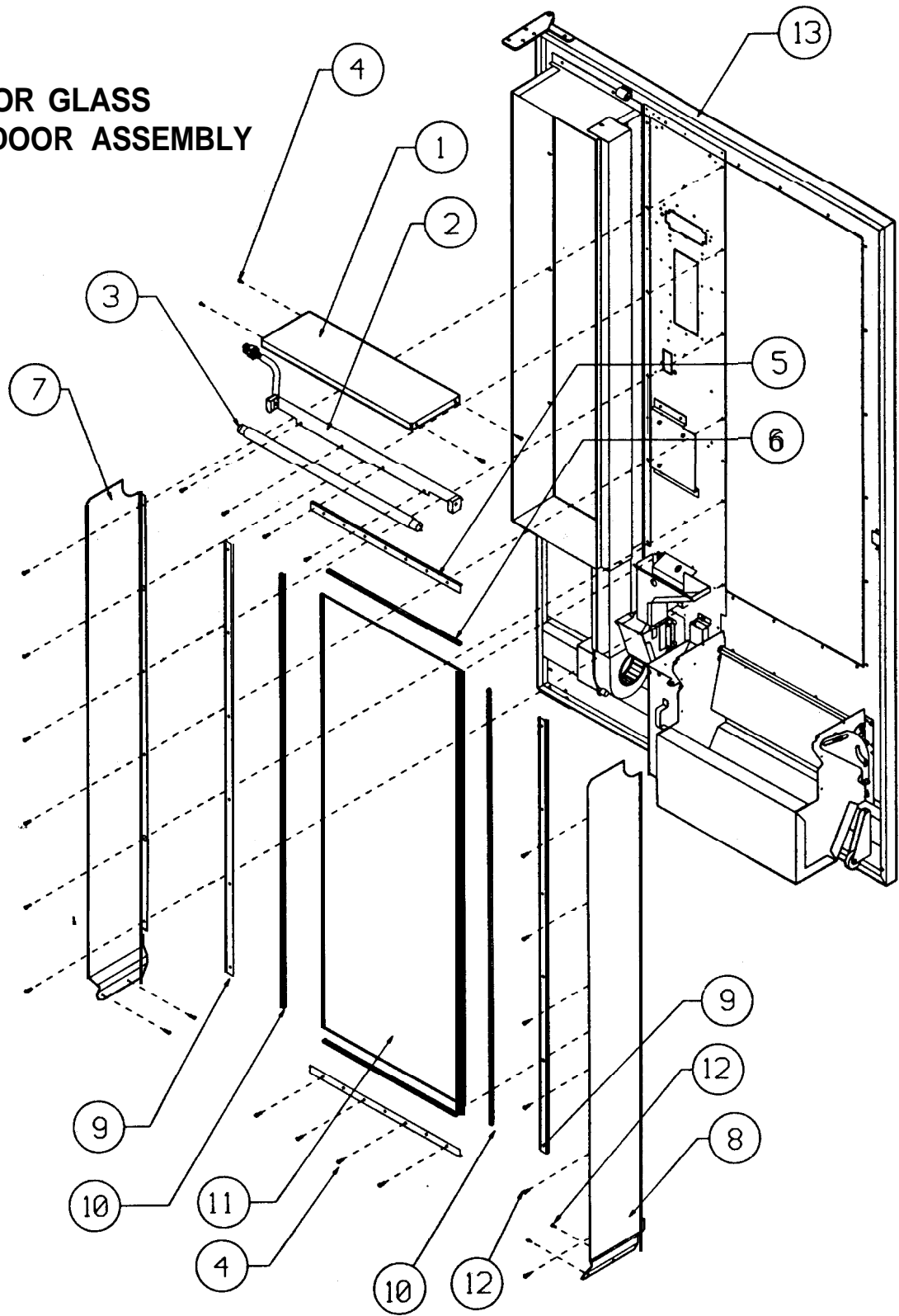
DELIVERY DOOR SERVICE DOOR ASSEMBLY



PARTS LIST SERVICE DOOR DELIVERY DOOR ASSEMBLY

ITEM	DESCRIPTION	PART NO.	QTY
1	DOOR ASSEMBLY W/A INTERNATIONAL	098-5287	1
2	WIRE CLAMP	400-8058	1
3	EXTENDED CABINET LENS	21061	1
4	DISPLAY FILTER	21060	1
5	DISPLAY ASSEMBLY	21153	1
6	NUT W/LOCKWASHER #8-32	20208	40
7	COIN RETURN CUP DOOR	001-2004	1
8	COIN RETURN DOOR PIN	001-6122	1
9	E-RING 1/8	R10K125	2
10	COIN RETURN CUP ASSEMBLY	001-5132	1
11	SCREW #10-32 X 1/2	S20C1032-8	4
12	RETAINER CASH BOX	098-5292	1
13	CASH BOX ASSEMBLY	098-5104	1
14	COIN RETURN CHUTE	098-5358	1
15	BOTTOM DOOR HINGE	150-5313BLK	1
16	NUT 1/4-20 KEPS	N20C2520	1
17	DELIVERY TRAY ASSEMBLY	099-5015	1
18	DOOR SUPPORT ROLLER ASSEMBLY	150-5244	1
19	SCREW 1/4-20 X 1/2 W/LOCKWASHER	S20C2520-8	2
20	DELIVERY TRAY SUPPORT	200-4028	1
21	SCREW #8-18 X 3/8	S40C818-6	4
22	SCREW	S39C818-6	4

**DOOR GLASS
SERVICE DOOR ASSEMBLY**

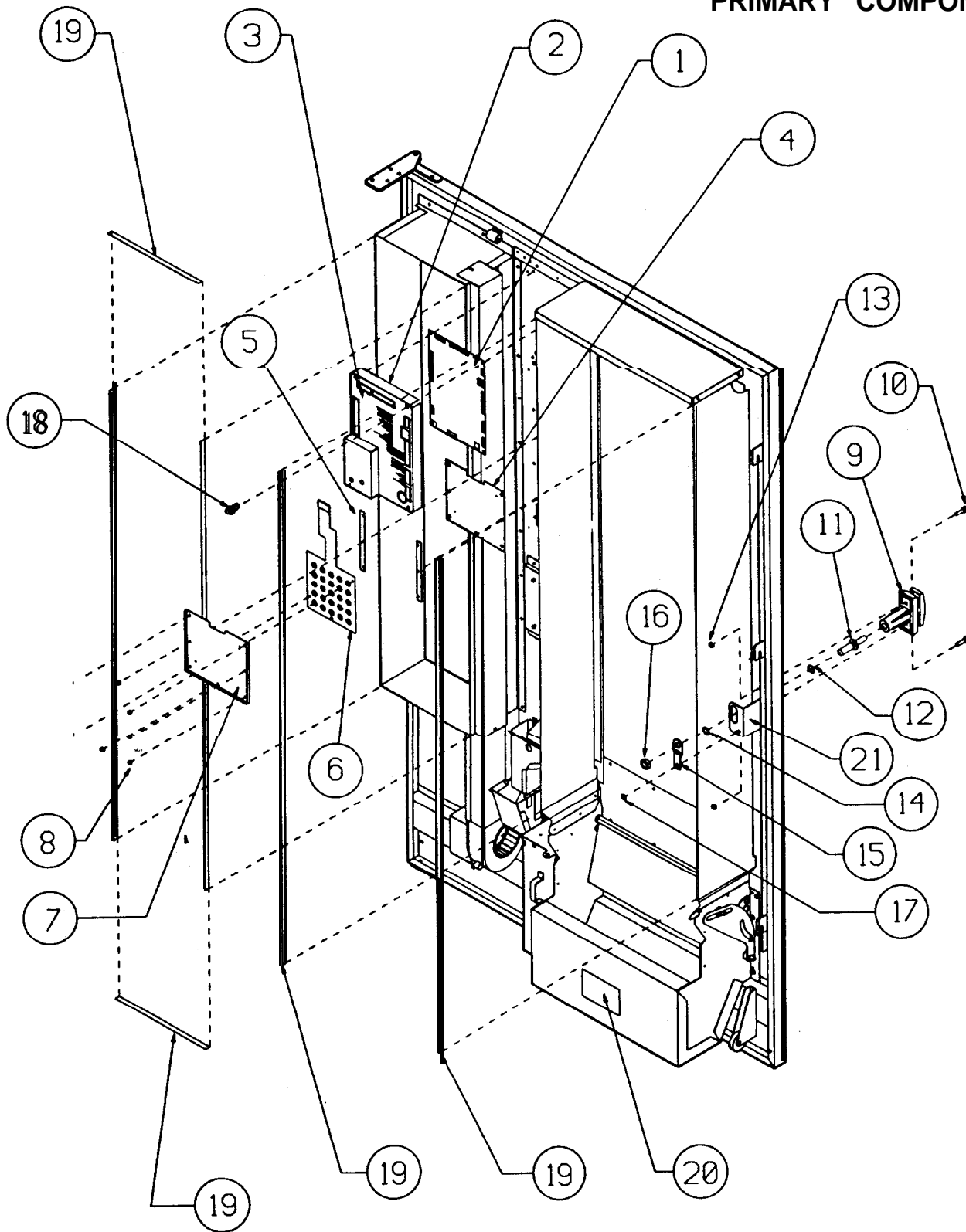


PARTS LIST DOOR GLASS SERVICE DOOR ASSEMBLY

ITEM	DESCRIPTION	PART NO.	QTY
1	TOP PRODUCT GUIDE SUPPORT	203-4047	1
2	LAMP BRACKET ASSEMBLY 13W LAMP	098-5257	1
3	LAMP FLUORESCENT F13T5CW	18845	1
4	SCREW #8-32 X 1/4	S42C832	4
5	TOP AND BOTTOM GLASS RETAINER	200-4027	2
6	GLASS GASKET HORIZONTAL	220-9007	2
7	PRODUCT GUIDE L.H.	099-4010	1
8	PRODUCT GUIDE R.H.	099-4011	1
9	GLASS RETAINER L.H./R.H.	099-4003	2
10	DISPLAY GLASS GASKET	099-9013	2
11	• DISPLAY GLASS (tempered glass only)	099-9007	2
12	SCREW #8-18 X 1/2	S39C818	40
13	DOOR ASSEMBLY W/A INTERNATIONAL	098-5287	1

NOTE: When replacing the door glass, replacement glass should be tempered glass only.

**SERVICE DOOR ASSEMBLY
PRIMARY COMPONENTS**



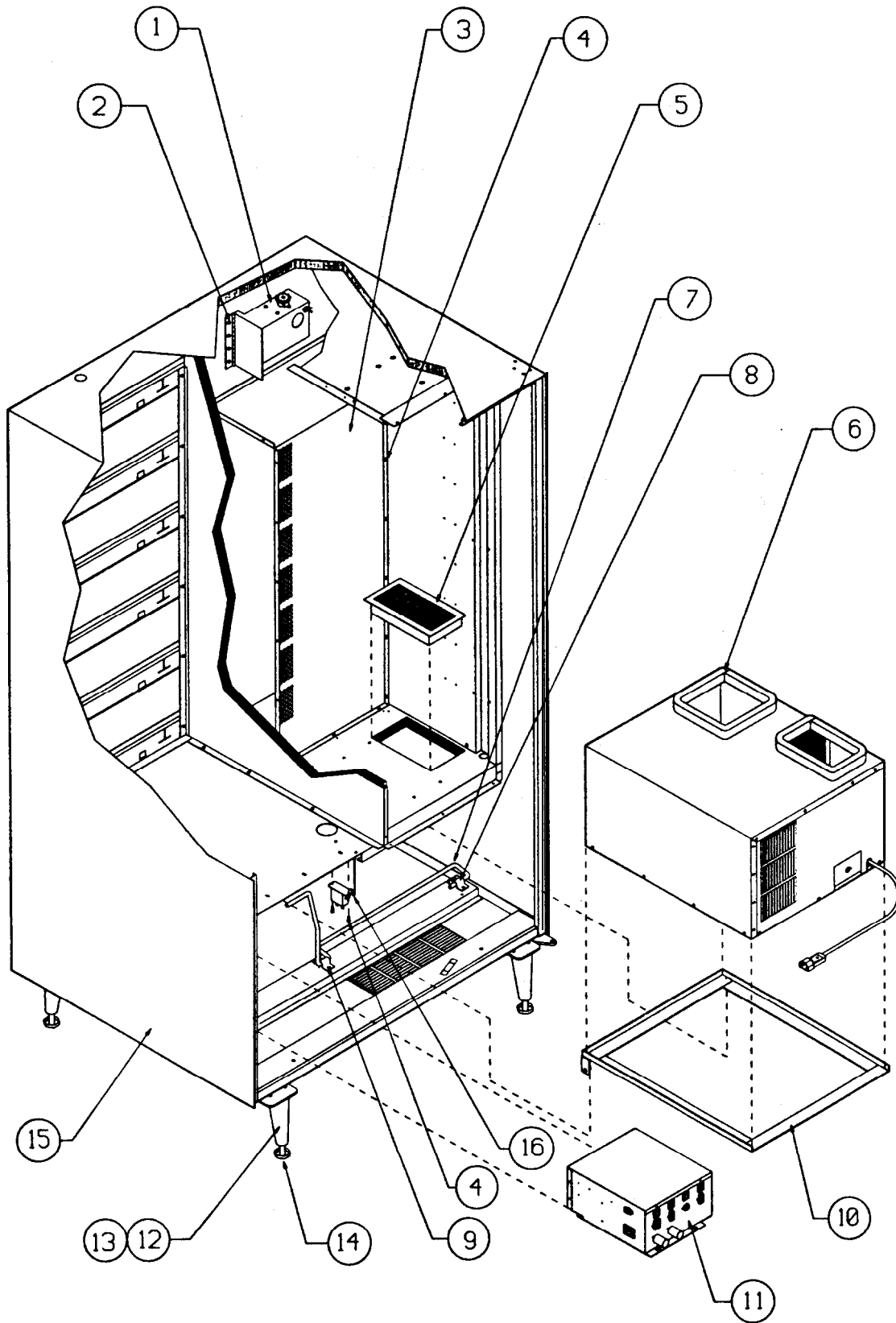
PARTS LIST

PRIMARY COMPONENTS

SERVICE DOOR ASSEMBLY

ITEM	DESCRIPTION	PART NO.	QTY
1	CONTROL BOARD	23357	1
2	CONTROL BOARD COVER ASSEMBLY	098-5308	1
3	DECAL FOR COVER ASSEMBLY	098-8166	1
4	KEYPADSPACER	098-8170	1
5	CONTROL BOARD SHIM SPACER	098-4355	2
6	KEYPAD INTERNATIONAL CONTROL BOARD	098-8167	1
7	KEYPAD BACKING PLATE	098-4354	1
8	NUT W/LOCKWASHER #8-32	20208	7
9	LOCK ASSEMBLY	19397	1
10	CARRIAGE BOLT #10-24UNC X 3/4	15249	2
11	COMPOSITE STUD AND DRIVE	23350	1
12	DOUBLE D WASHER	170-4089	1
13	NUT HEX W/STAR LOCKWASHER #10-24	19566	1
14	BUSHING SPACER	170-6008	1
15	DRIVE CAM AND LIFT LEVER ASSEMBLY	170-5028	1
16	NUT HEX 1/2-13	NC23C5013	1
17	RETAINING RING 5/16	R12K512	1
18	JACK	098-8135	1
19	PRODUCT GUIDE TRIM	098-8078	16.6'
20	GLASS BREAKAGE DECAL	22245	1
21	LOCKING BAR ASSEMBLY	230-5026	1

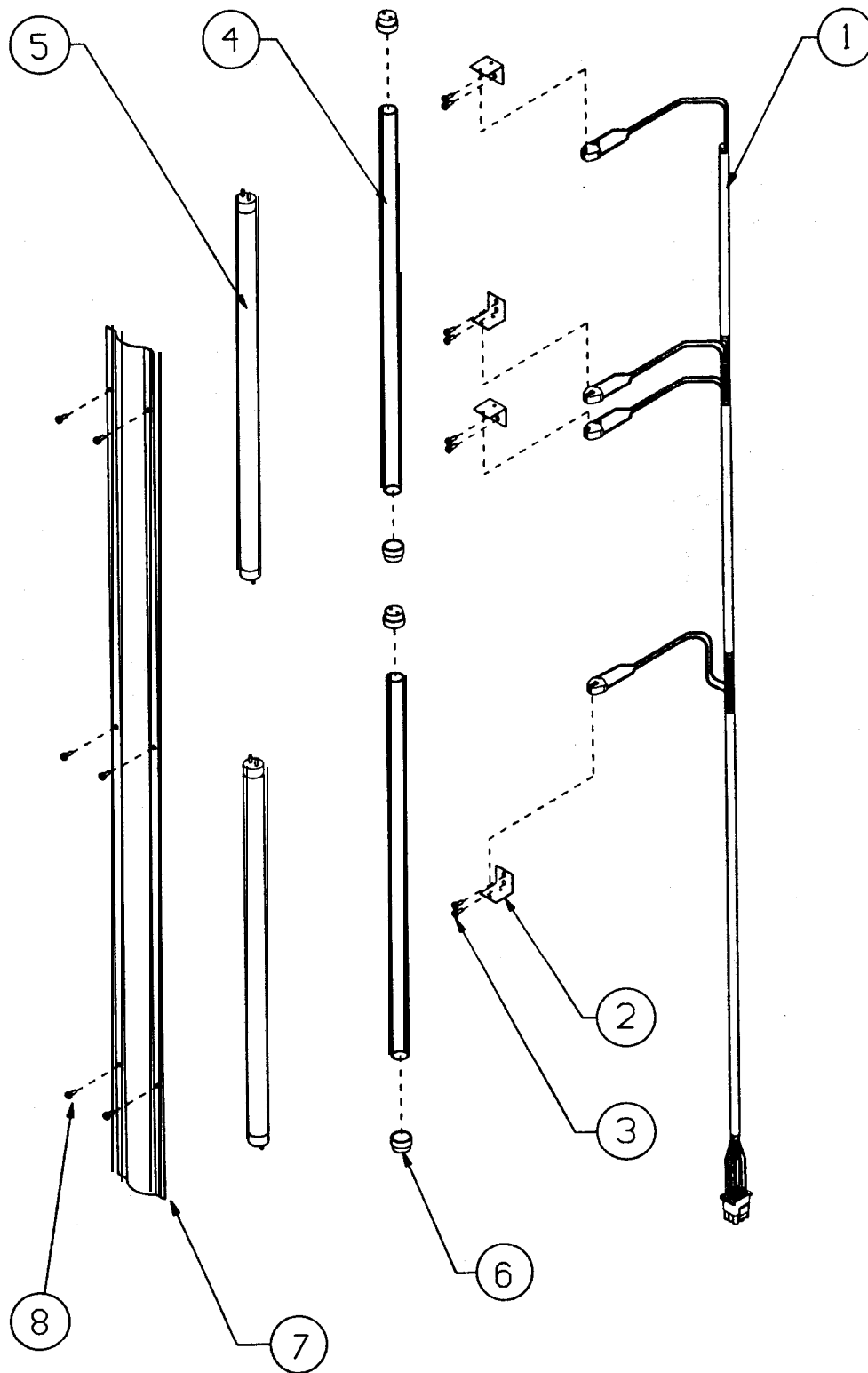
**COLD FOOD AREA
PRIMARY COMPONENTS**



PARTS LIST **COLD FOOD AREA** **PRIMARY COMPONENTS**

ITEM	DESCRIPTION	PART NO.	QTY
1	SHOPPER MOTOR BRACKET ASSEMBLY	098-5060	1
2	SCREW #8-18 X 3/8	01298BLK	4
3	AIR DUCT ASSEMBLY	098-4341	1
4	SCREW HEX WASHER #8-18 X 1/2	S16C818-8	24
5	GRILL W/A	097-5108	1
6	CHILLER ASSEMBLY	23504115	1
7	LIFT LEVER	098-8171	1
8	LEVER CLAMP	23612	2
9	SCREW	S41 C832-8	4
10	RACK WELD ASSEMBLY	098-5313	1
11	POWER BOX ASSEMBLY	098-5330	1
12	CABINET LEG ASSEMBLY	224-5054BLK	2
13	BOLT 5/16-18 X 5/8	19302	14
14	LEG LEVELER	19765	4
15	CABINET W/A	098-5291	1
16	HEALTH SAFETY THERMOSTAT	098-8187	1
17	GUM AND MINT SPRING ROLLER	099-3002	1
18	SPRING ROLLER SHAFT	099-6000	1

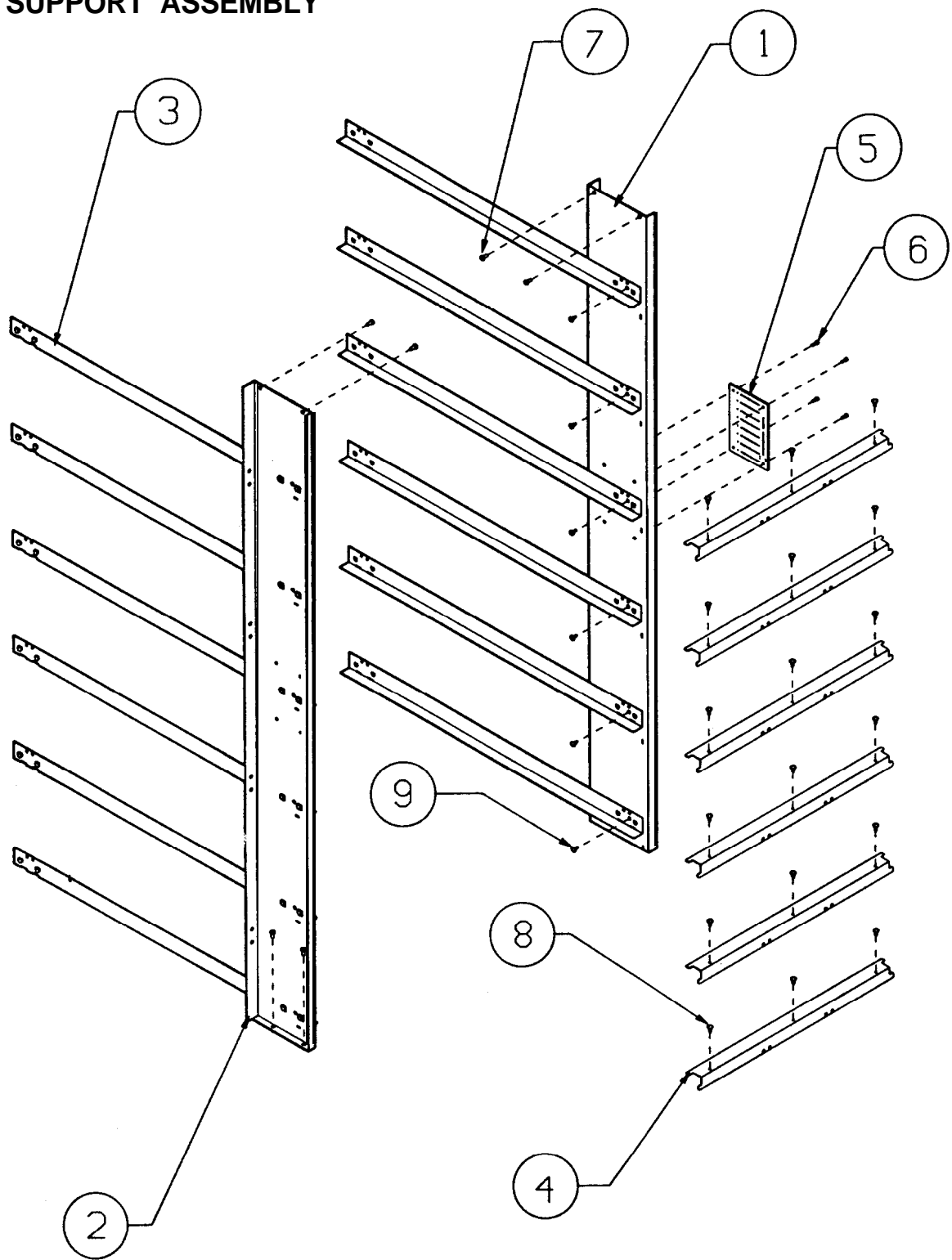
LAMP ASSEMBLY



**PARTS LIST
COLD FOOD
LAMP ASSEMBLY**

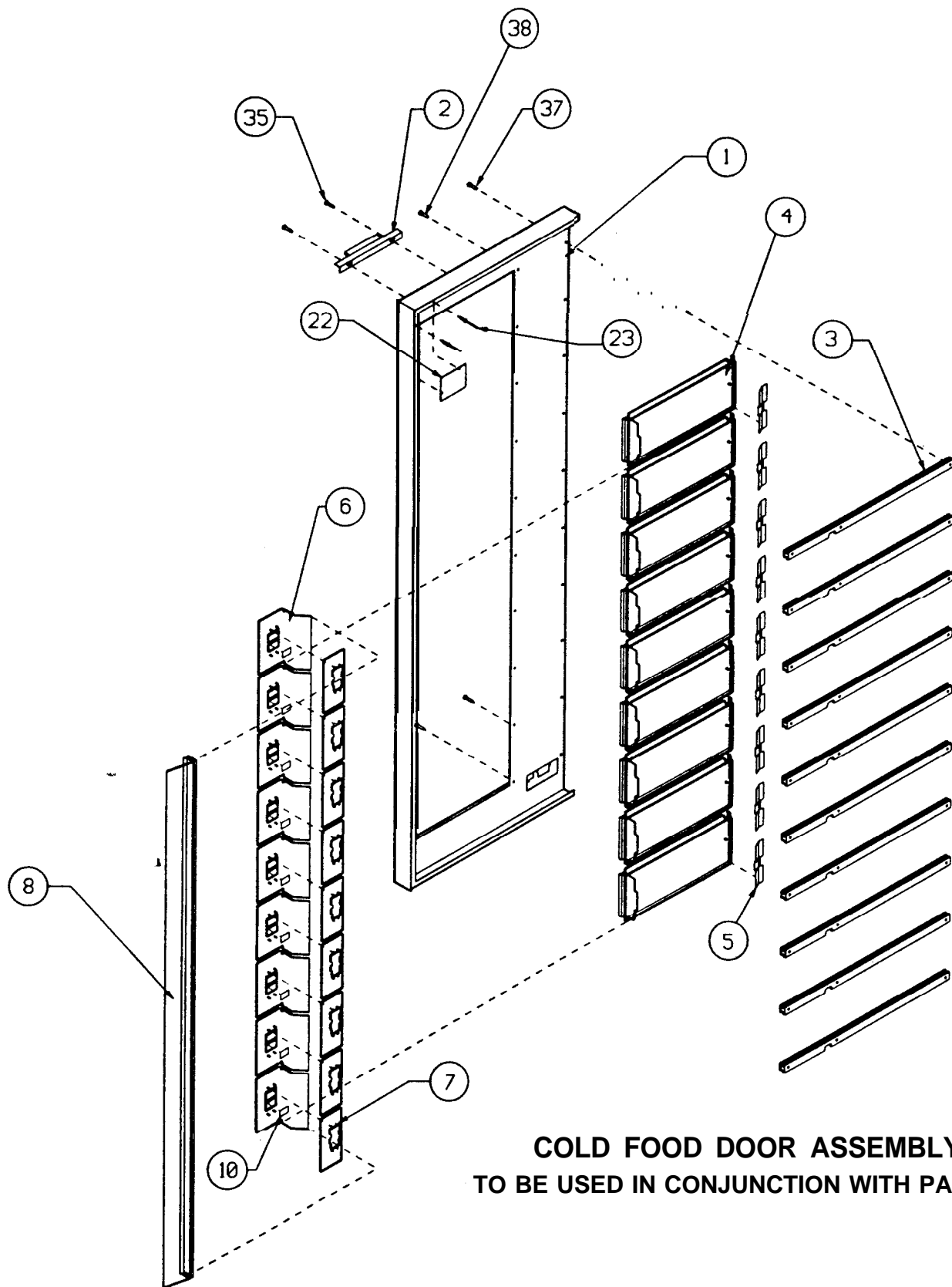
ITEM	DESCRIPTION	PART NO.	QTY
1	DUAL LAMP HARNESS	098-5369	1
2	LAMP END BRACKET	097-4000	4
3	SCREW #8-18 X 3/8	S39C818-6	a
4	TUBE PROTECTOR	20951	2
5	FLUORESCENT LAMP	18845	2
6	VINYL TUBE	20952	4
7	LIGHT COVER	098-3019	1
8	CANOE CLIP .060 ROUND HEAD	21 O-801 2	6

TRAY SUPPORT ASSEMBLY



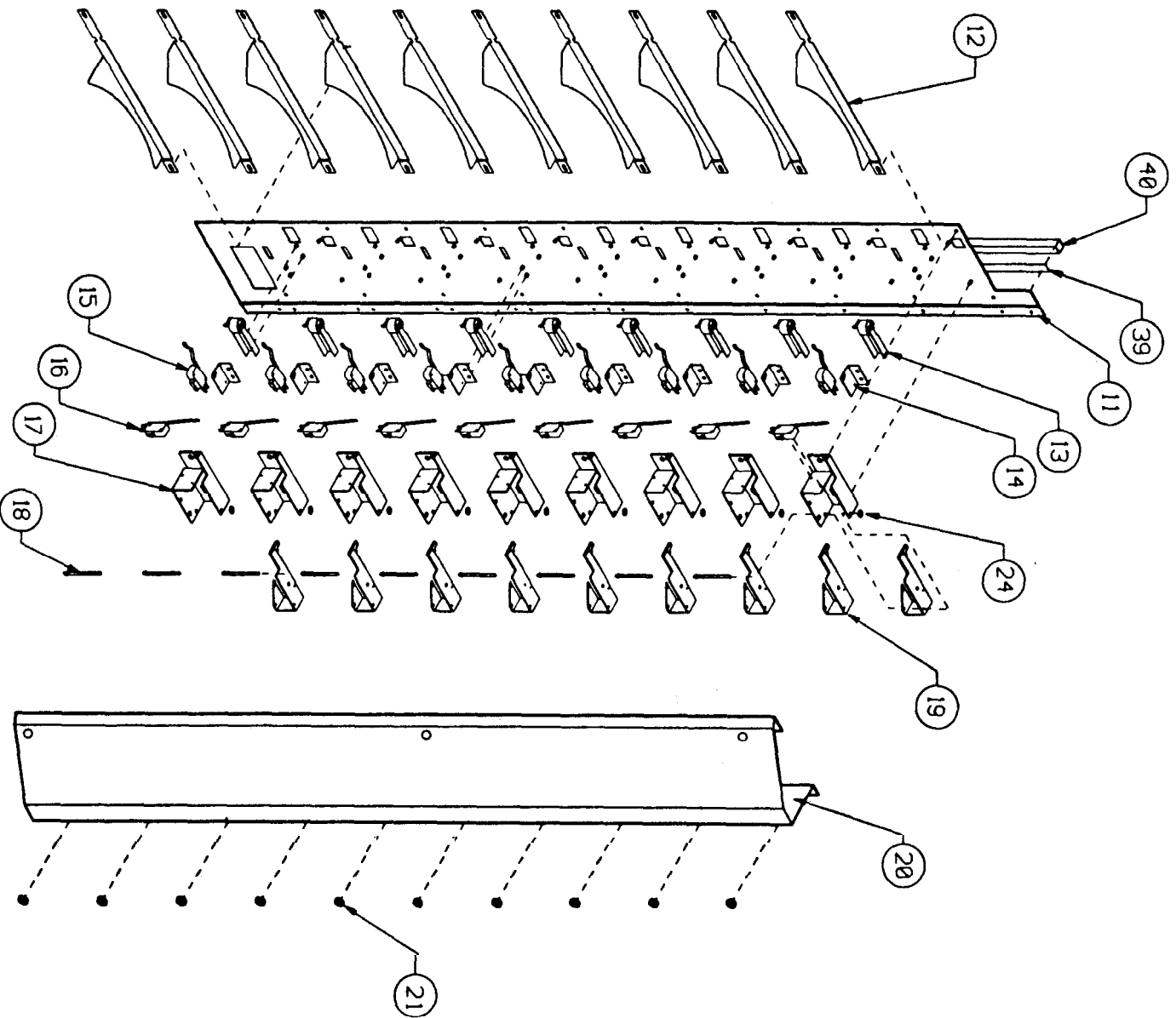
PARTS LIST TRAY SUPPORT ASSEMBLY

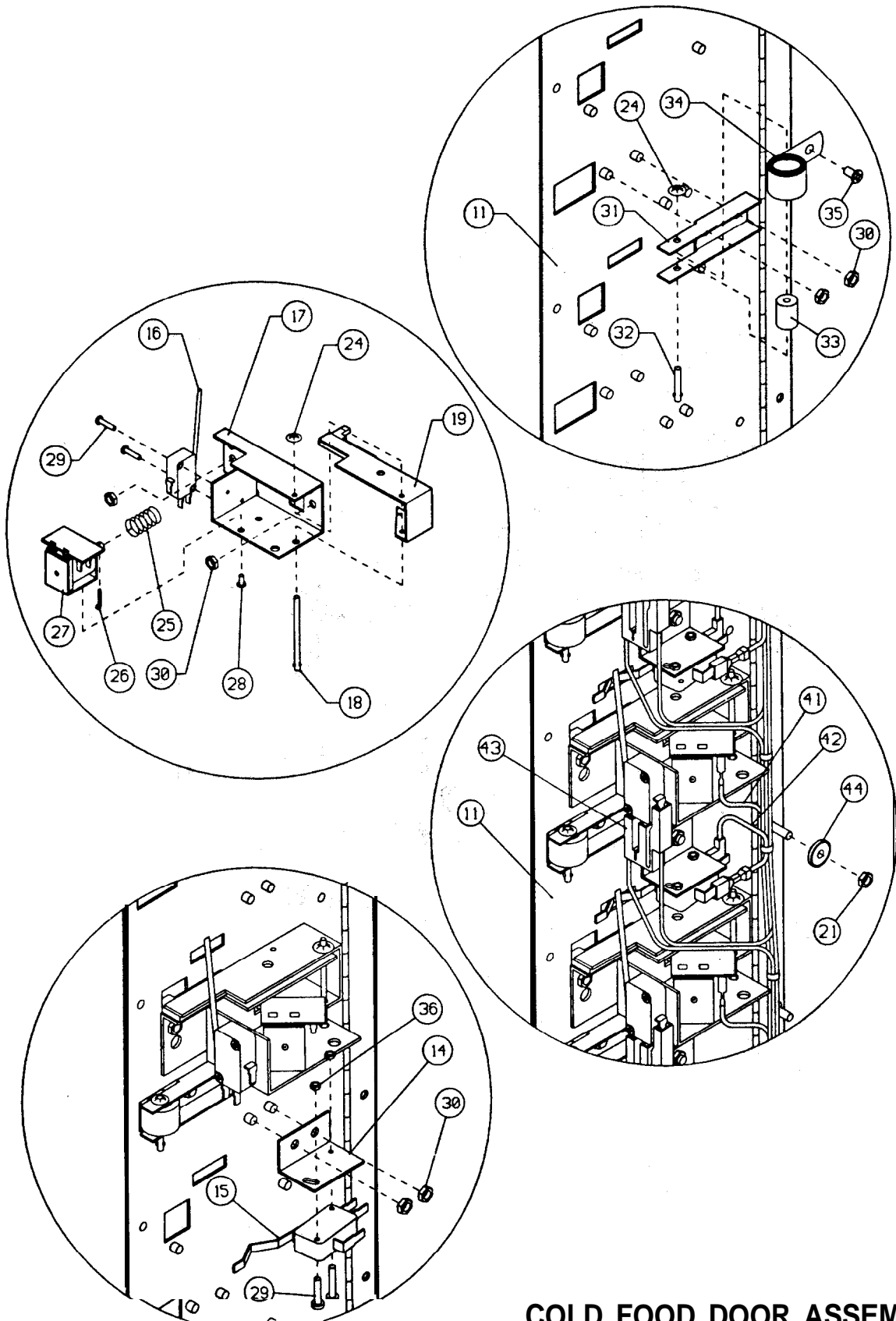
ITEM	DESCRIPTION	PART NO.	QTY
1	TRAY FRAME L.H. SUPPORT	099-4064	1
2	TRAY FRAME R.H. SUPPORT	099-4065	1
3	UNIVERSAL TRACK	099-4160	12
4	FRONT TRACK SUPPORT	203-4038	6
5	P.C. BOARD 500/600	2142401	1
6	MACHINE SCREW	00302	4
7	SCREW #10-32 X 3/8	S20C1032-6	8
8	CANOE CLIP .060 ROUND HEAD	21 O-801 2	18
9	CANOE CLIP .100 ROUND HEAD	21 O-8021	12



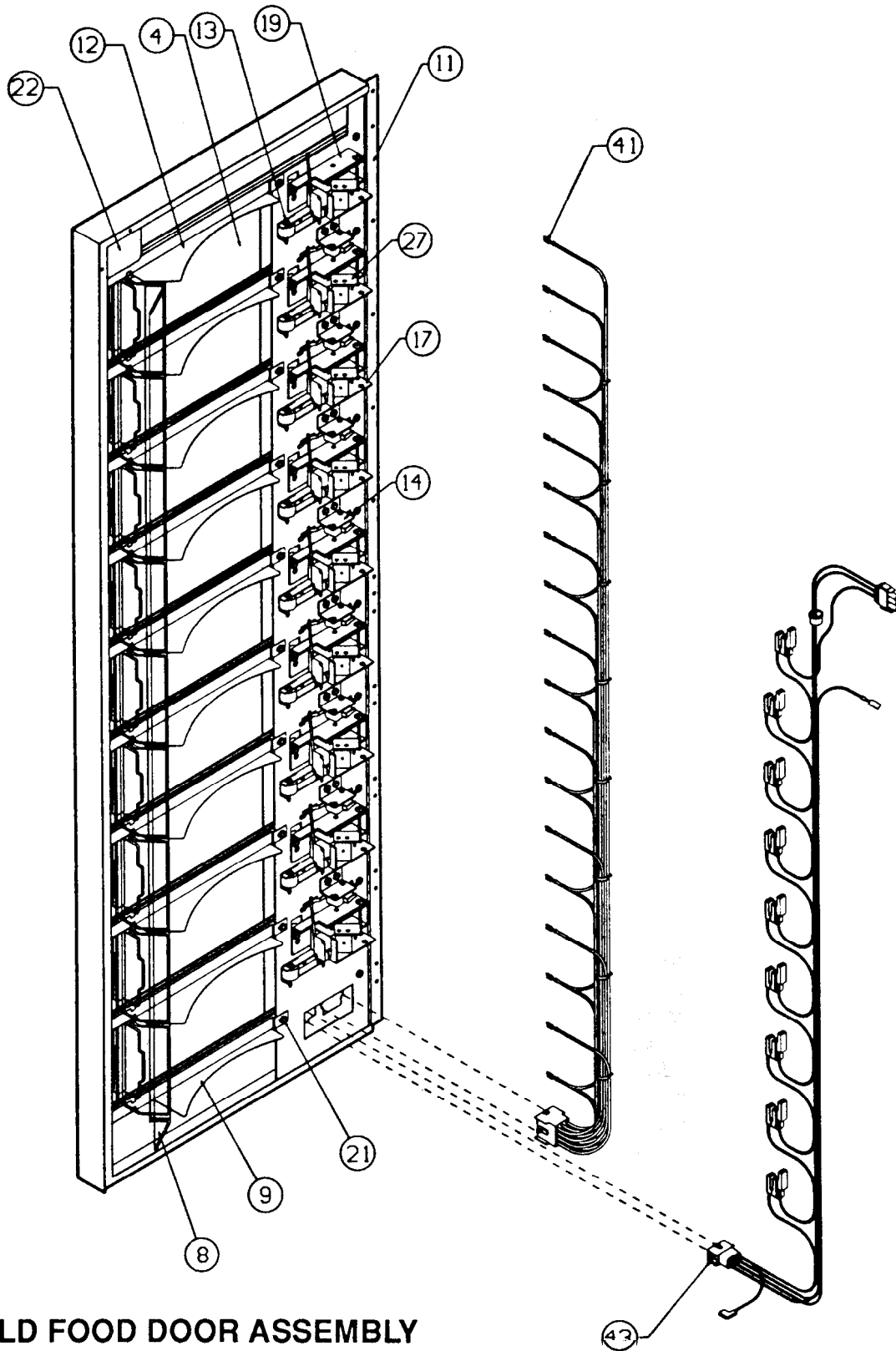
COLD FOOD DOOR ASSEMBLY
TO BE USED IN CONJUNCTION WITH PAGE 65

**COLD FOOD DOOR ASSEMBLY
TO BE USED IN CONJUNCTION WITH PAGE 65**





**COLD FOOD DOOR ASSEMBLY
TO BE USED IN CONJUNCTION WITH PAGE 65**

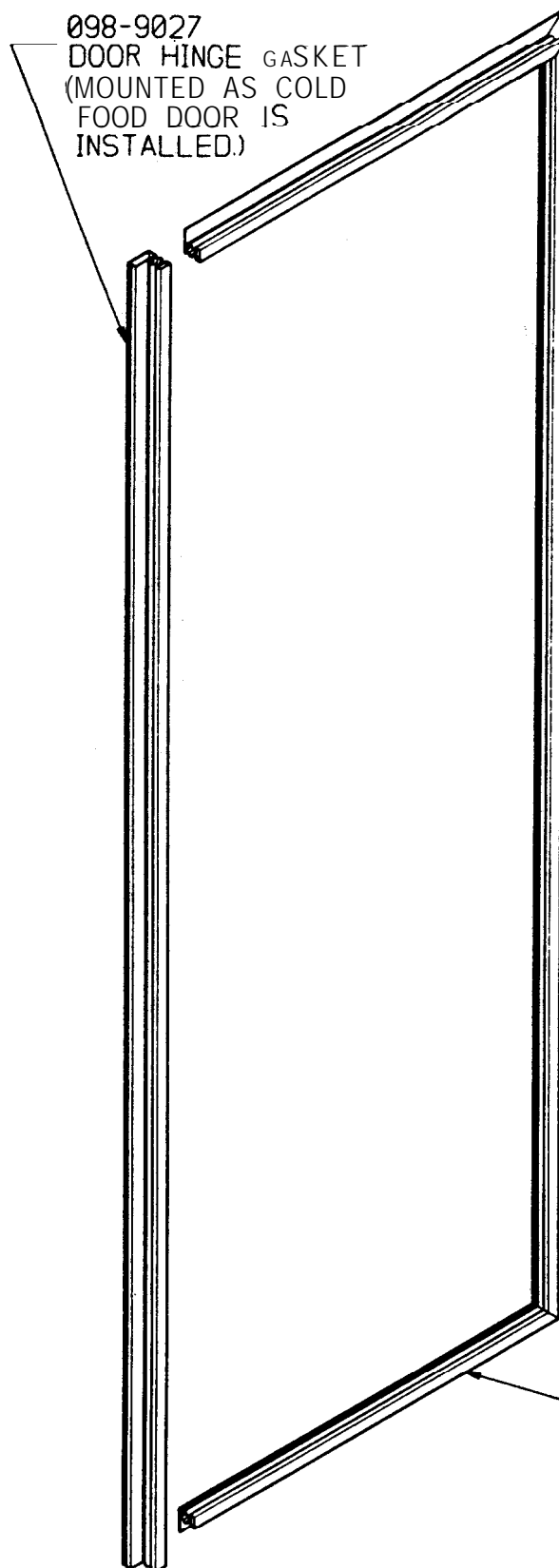


COLD FOOD DOOR ASSEMBLY
TO BE USED IN CONJUNCTION WITH PAGE 65

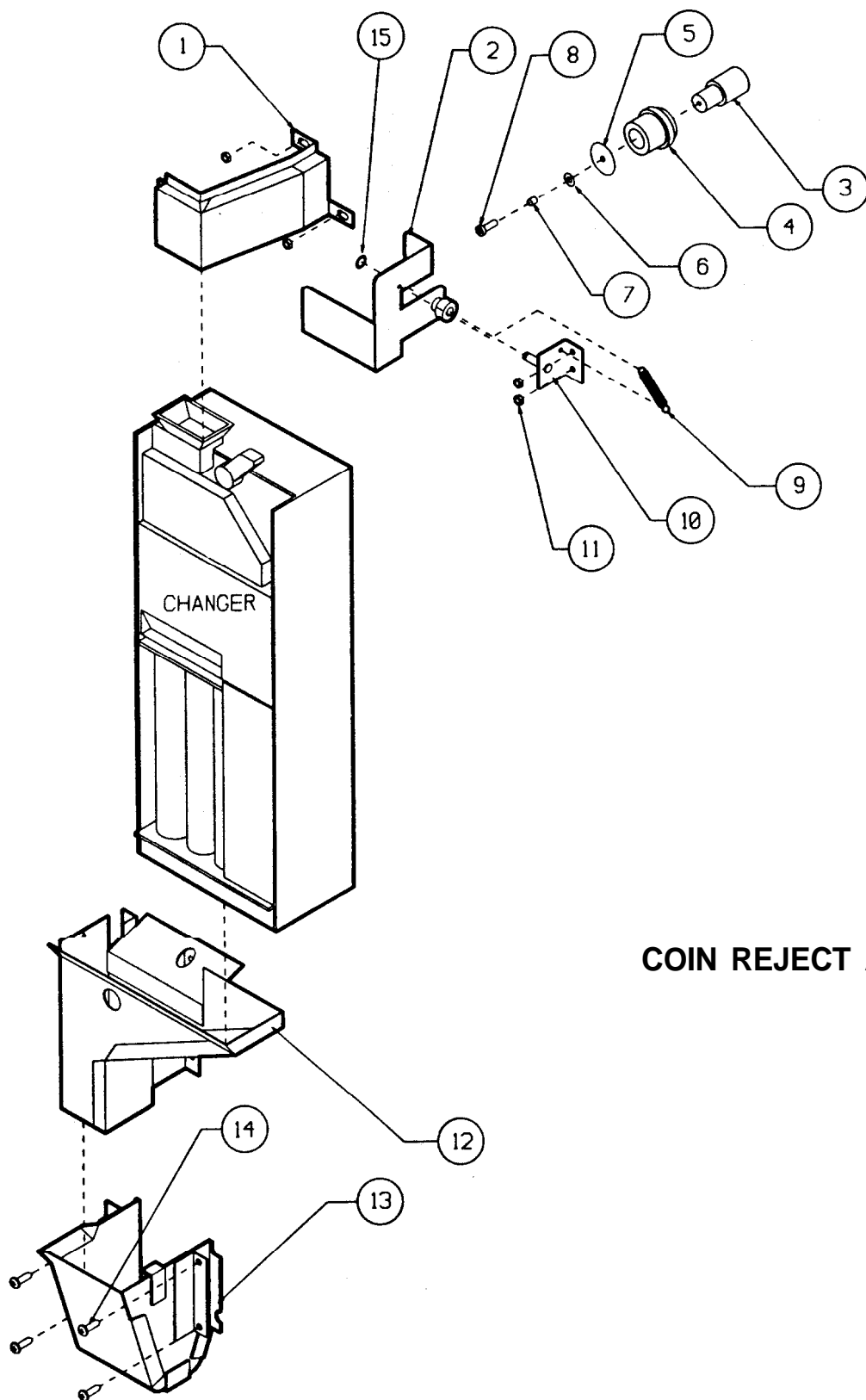
PARTS LIST

COLD FOOD DOOR ASSEMBLY

ITEM	DESCRIPTION	PART NO.	QTY
1	DOOR AND FOAM SEAL ASSEMBLY	098-5083	1
2	COLD FOOD HANDLE	098-5046	1
3	COLD FOOD DOOR TRACK	098-2008	10
4	VEND DOOR	098-9015	9
5	V-SEAL DOOR WEATHER STRIP	098-9031	9
6	DOOR STOP PRICE HOLDER	098-3016	9
7	PRICE TAG RETAINER	098-3017	9
8	PRODUCT GUARD	098-3033	1
9	LOWER TRAY SHIELD	098-4330	1
10	NUMBER LEVELS HO-H9	098-8044	1
11	INNER DOOR SUPPORT HINGE ASSEMBLY	098-5260	1
12	LOWER TRAY SHIELD	098-4097	9
13	VEND DOOR SPRING ASSEMBLY	098-5089	9
14	SWITCH MOUNTING BRACKET	098-4310	9
15	SWITCH	098-4311	9
16	MICRO SWITCH	200-8019	9
17	SOLENOID BRACKET	098-4087	9
17A	SOLENOID ASSEMBLY	098-5084	9
18	LOCK ARM PIN	098-6010	9
19	LOCK ARM W/A	098-5043	9
20	INNER GUARD	098-4013	1
21	HEX NUT #6-32	N20C632	30
22	COLD FOOD DOOR SWITCH PLATE	098-4142	1
23	BLIND RIVET	220-8030	2
24	STUD .125	099-8008	18
25	SPRING	098-7007	9
26	COTTER PIN	CI 0C062-8	9
27	SOLENOID BOARD ASSEMBLY	098-5081	9
28	SCREW #6 X 3/16	1837BLK	2
29	SCREW #4-40 X 5/8	04455	9
30	NUT LOCKWASHER #8-32	20208	54
31	SPRING BRACKET VEND DOOR	098-4025	9
32	SPRING ROLLER SHAFT GUN AND MINT	099-6000	9
33	SPRING ROLLER GUM AND MINT	099-3002	9
34	SPRING	19165	9
35	SCREW #8-32 X 1/4	S42C832-4	9
36	HEX NUT #4-40	15987	9
37	SCREW #6-32 X 1 3/8	S20D632-22	20
38	SCREW #6-32 X 7/8	S10D632-14	10
39	KOREL TAPE	098-8025	4'
40	STRIPPING VINYL, 1/2 X 1/2	20102	.386'
41	COLD FOOS SOLENOID HARNESS	098-5069	1
42	JUMPER HARNESS	098-5269	9
43	COLD FOOD DOOR HARNESS	098-5226	1
44	INNER GUARD BUSHING	098-6012	6



COLD FOOD DOOR GASKET

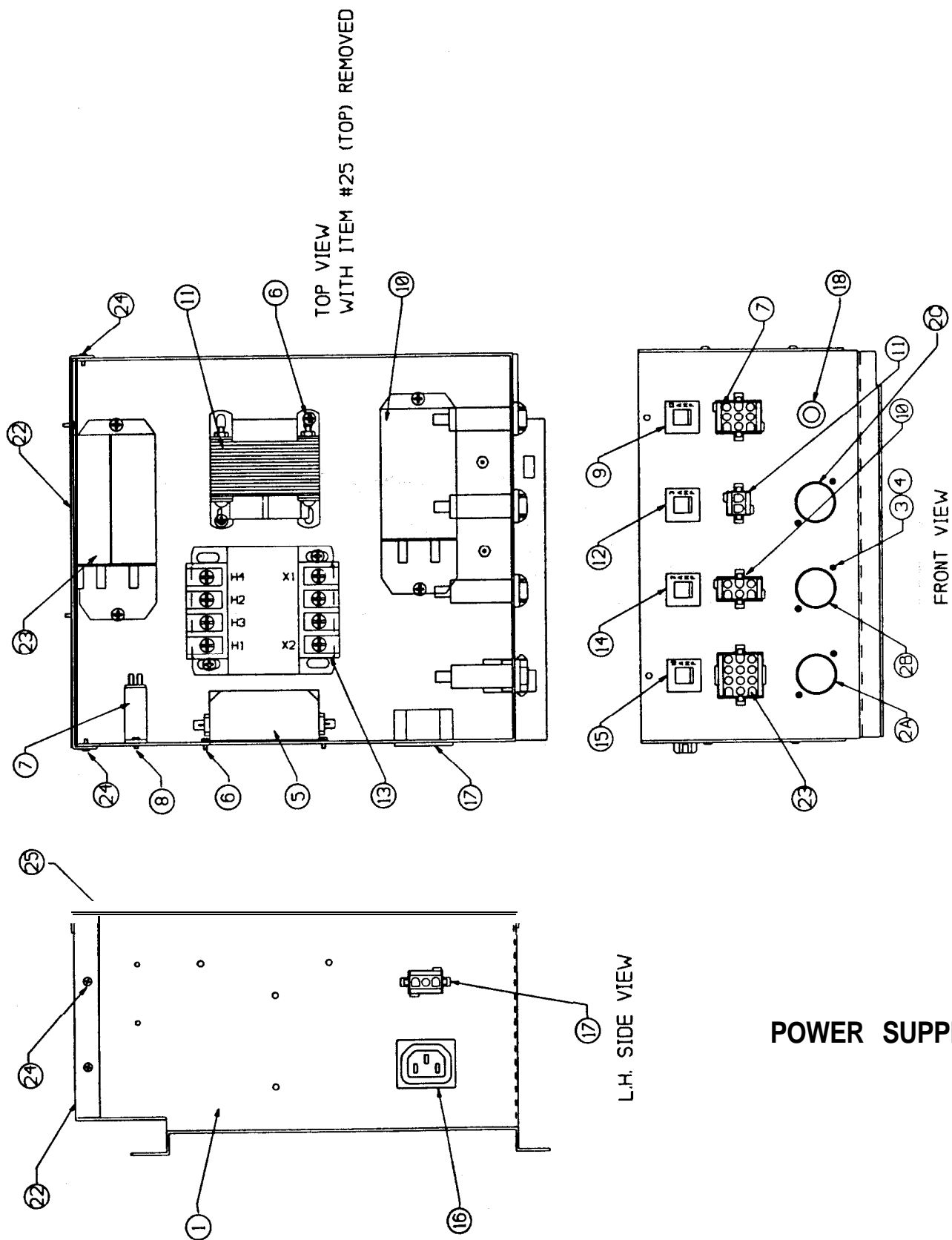


COIN REJECT ASSEMBLY

PARTS LIST

COIN REJECT ASSEMBLY

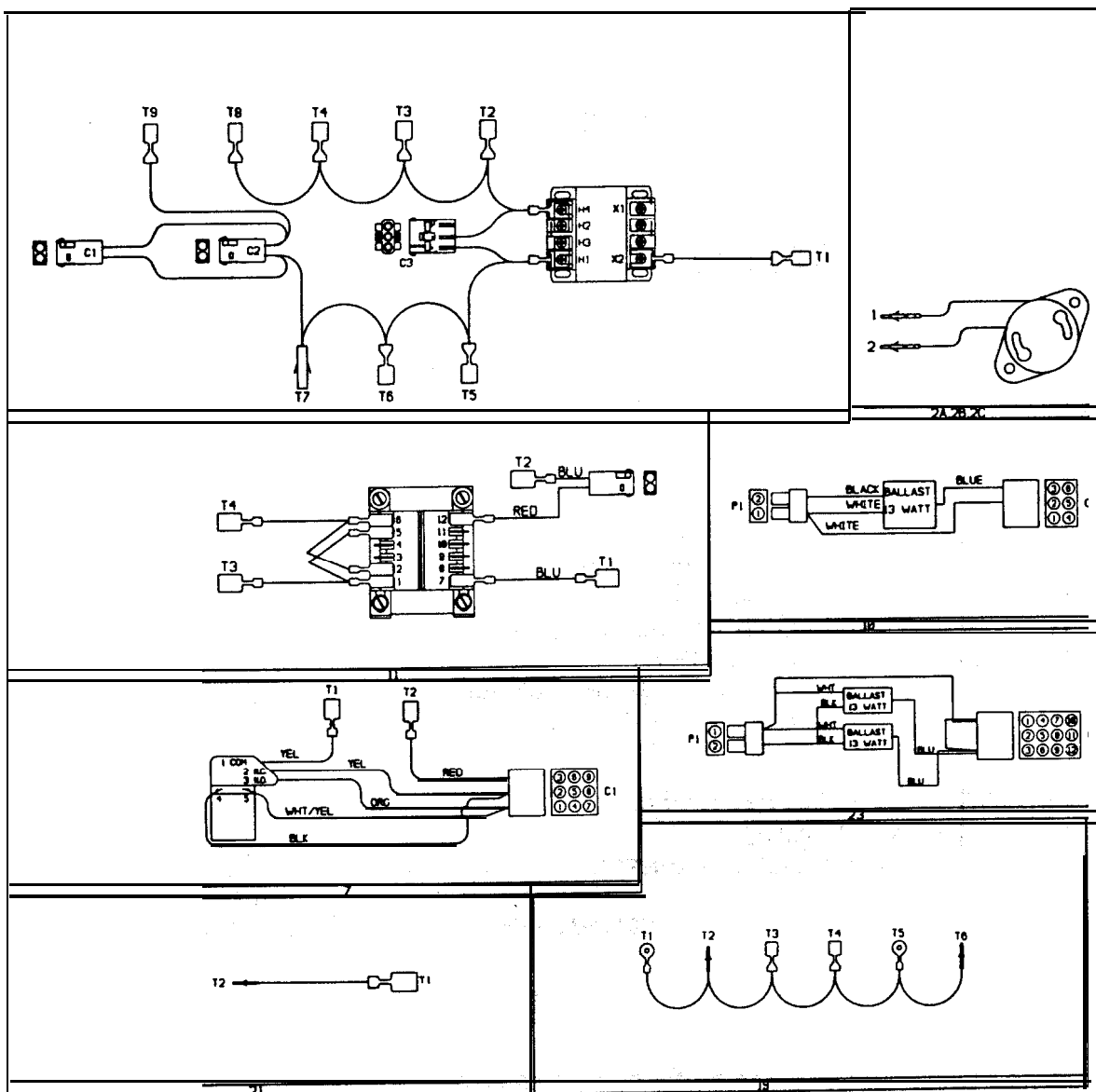
ITEM	DESCRIPTION	PART NO.	QTY
1	COIN CHUTE ASSEMBLY	098-5359	1
2	COIN REJECT LEVER ASSEMBLY	098-4440	1
3	COIN REJECT BUTTON	21125	1
4	COIN REJECT BUSHING	098-8172	1
5	WASHER	16154	1
6	WASHER #8	131419	1
7	SPACER	22201	1
8	SCREW #8-18 X 1/2	2614BLK	1
9	SPRING	00611	1
10	MTG. BRKT. ASSEMBLY COIN REJECT LEVER	098-4439	1
11	NUT HEX W/LOCKWASHER #8-32	20208	4
12	CON RETURN CHUTE ASSEMBLY	098-5358	1
13	COIN RETURN CUP ASSEMBLY	001-5132	1
14	SCREW #10-32 X 1/2	S20C1032-8	4
15	1/4" E-RING	R 1 OK250	1



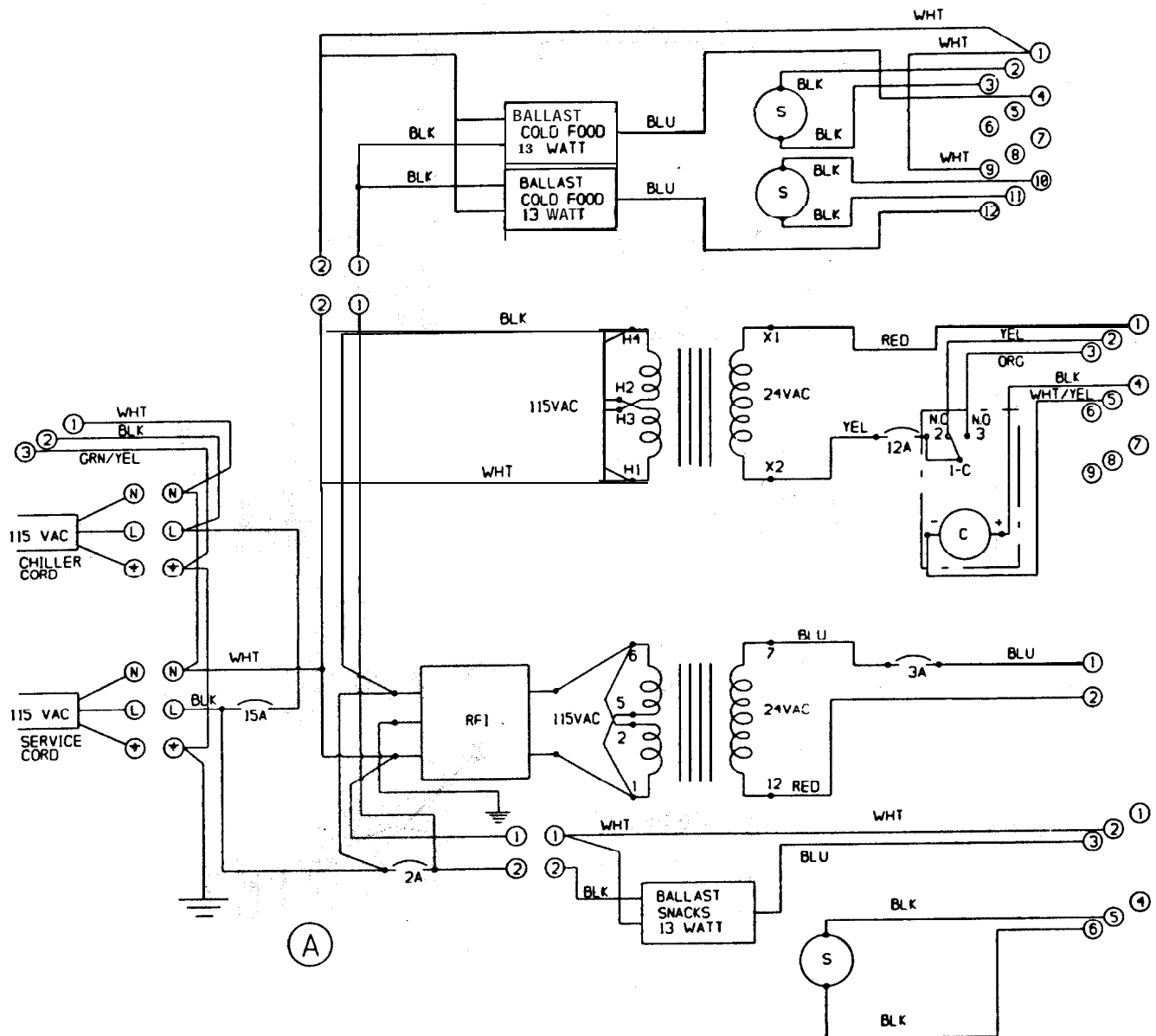
POWER SUPPLY

PARTS LIST POWER SUPPLY

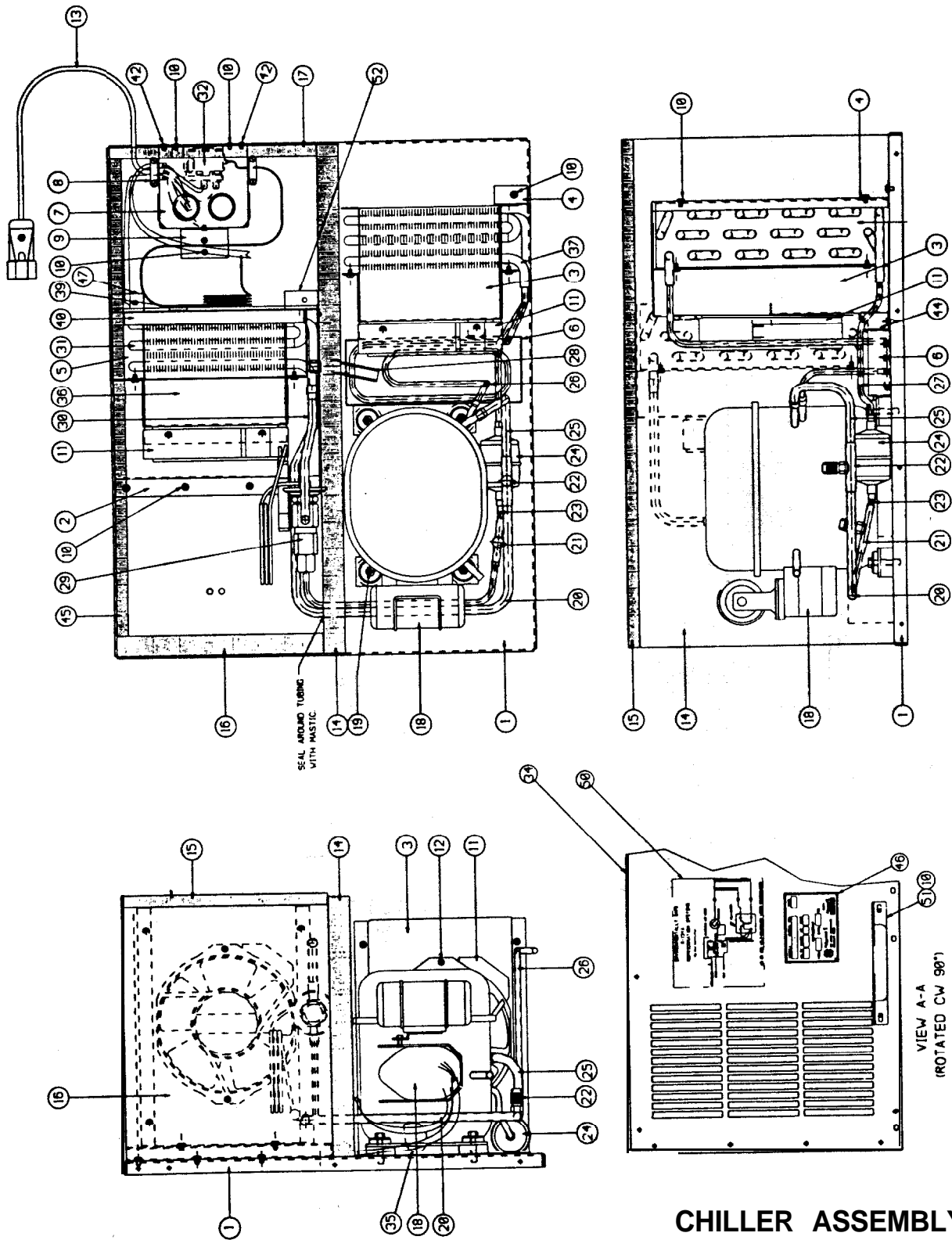
ITEM	DESCRIPTION	PART NO.	QTY
1	POWER BOX W/A	098-5345	1
2ABC	STARTER SOCKET ASSEMBLY	098-5204	3
3	HEX NUT	N24CM3	6
4	SCREW	S16CM3-14	6
5	RFI FILTER	20758	1
6	SCREW #8-32	01715	14
7	RELAY ASSEMBLY	098-5350	1
8	SCREW #6-20 X 1/4	S39C620-4	1
9	12 AMP CIRCUIT BREAKER	2233003	1
10	BALLAST 13 WATT	098-5365	1
11	CONTROLLER TRANSFORMER ASSEMBLY	098-5362	1
12	3 AMP CIRCUIT BREAKER	2233002	1
13	SHOPPER TRANSFORMER ASSEMBLY	098-5363	1
14	2 AMP CIRCUIT BREAKER	2233001	1
15	15 AMP CIRCUIT BREAKER	2233005	1
16	APPLIANCE OUTLET	19663	1
17	3 CIRCUIT CAP HOUSING	097-8038	1
18	3/8 GROMMET	00 18020	1
19	GROUND LOOP HARNESS	098-5361	1
20	#8-32 NUT	20208	2
21	CIRCUIT BREAKER FEED HARNESS	098-5360	1
22	POWER BOX BACK	098-4409	1
23	DUAL BALLAST ASSEMBLY	098-5364	1
24	SCREW BLUNT TIP	098-I 868	5
25	POWER BOX COVER	098-4410	1



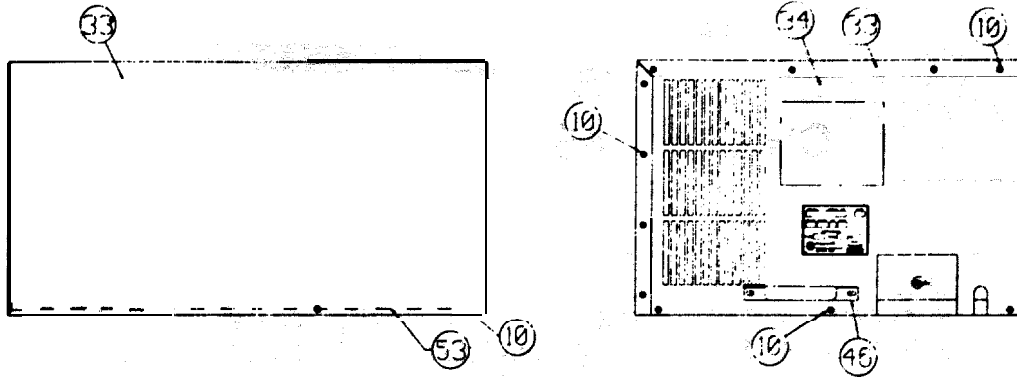
ITEM	PART NO.	FROM/TO TERMINAL CONNECTIONS
2A	098-5204	T1/23-C1-2 , T2/23-C 1-3
2B	098-5204	T1/23-C1-10 , T2/23-C1-11
2C	098-5204	T1/10-C1-5 , T2/ 10-C 1-6
7	098-5350	C1/1 , T1/9-2 , T2/13-X1
10	098-5365	P1/13-C2 , C1/1
11	098-5362	C1/1 , T1/12- 1 , T2/12-2 , T3/5-4 , T4/5-5
13	098-5363	T1/9-1 , C1/23-P1 , C2/10-P1 , T2/5-2 , T3/16-L , T4/15-2 , T5/5-1 , T6/16-N , T7/17-1 , C3/25 , T8/12-2 , T9/12-1
19	098-5361	T1/18 , T2/17-3 , T3/16-★ , T4/5-3 ,T5/STUD , T6/13-C3-3
21	098-5360	T1/17-2 , T2/15-1
23	098-5364	C1/1 , P1/13-C1



POWER SUPPLY SCHEMATIC



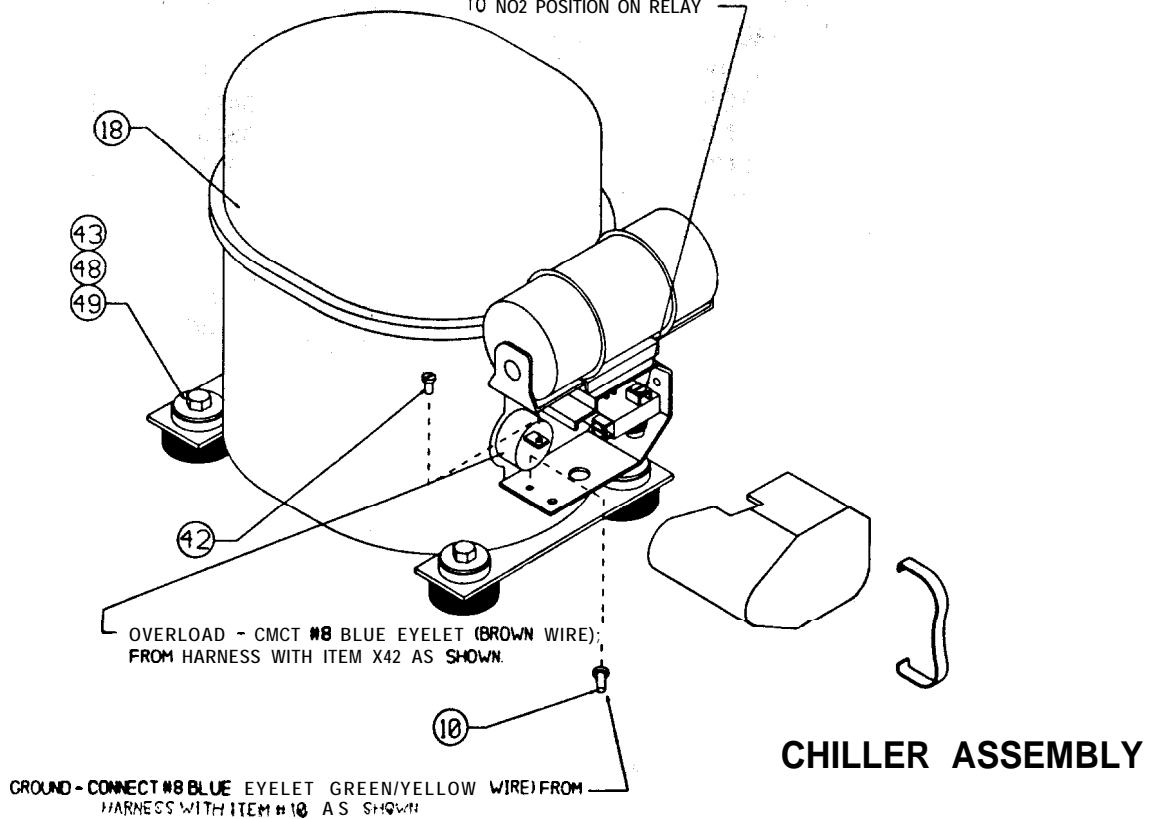
TO BE USED IN CONJUNCTION WITH PAGE 75, 76



COMPRESSOR COMPONENT REPLACEMENT P/N

ITEM	PART NUMBER 115V-60HZ	PART NUMBER 230V-50-HZ
CAPACITOR	23534	23537
RELAY	23533	23536
OVERLOAD	23532	23535

RELAY - CONNECT #8 BLUE EYELET (BLUE WIRE) FROM HARNESS
TO NO2 POSITION ON RELAY



TO BE USED IN CONJUNCTION WITH PAGE 75, 76

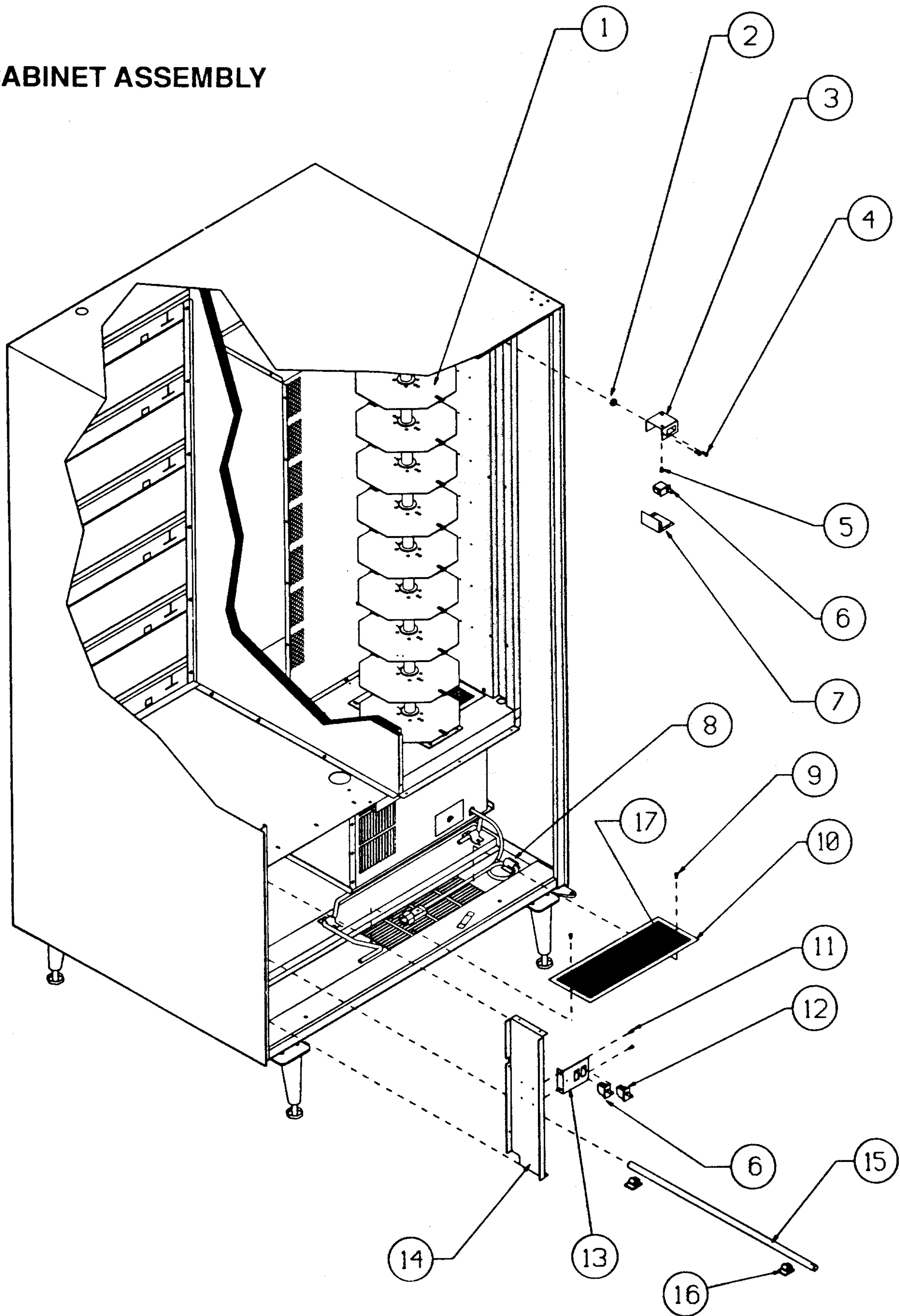
PARTS LIST CHILLER ASSEMBLY

ITEM	DESCRIPTION	PART NO.	QTY
1	CHILLER BASE PLATE	23459	1
2	EVAPORATOR BASE PLATE	23432	1
2A	EVAPORATOR BASE PLATE INSULATION	23814	1
3	CONDENSER FAN BRACKET	23493	1
4	CONDENSER BRACKET	23439	1
5	CONDENSATE PAN	23434	1
5A	CONDENSATE PAN INSULATION	098-9030	1
6	EVAPORATOR DRAIN PAN WELDMENT	23451	1
7	HANDY BOX	098-8095	1
8	ROMEX CONNECTOR	83692	1
9	MOUNTING BRACKET HANDY BOX	23441	1
10	SCREW #8-32 X 3/8	01715	70
11	FAX 6" AXIAL	098-8040	2
12	NUT, HEX W/LOCKWASHER #8-32	20208	4
13	POWER CORD HARNESS	097-5119	1
14	INSULATION, DIVIDER	23611	1
15	INSULATION TOP	23499	1
16	INSULATION END	23610	1
17	INSULATION END	23539	1
18	COMPRESSOR TECUMSEH MODEL 4440	23487	1
19	SCREW	23494	4
20	TUBING ASSEMBLY	23464	1
21	VALVE TEE 1/4	098809801	1
22	VALVE TEE 3/8	098-8098	1
23	DRIER TUBING TO 1/4" SERVICE TEE	23445	1
24	FILTER DRIER	097-8000	1
25	TUBING SERVICE TEE TO COMPRESSOR	23449	1
26	TUBING COMPRESSOR TO CONDENSER	23443	1
27	TUBING CINDENSER TO DRIER	23444	1
28	DRAIN TUBE CLEAR VINYL 3/8 ID	23502	1
29	EXPANSION VALVE	097-8001	1
30	TUBING EXPANSION VALVE TO EVAPORATOR	23447	1
31	EVAPORATOR	097-8003	1
32	THERMOSTAT RANCO	23506	1Z
33	TOP AND BACK COVER CHILLER	23489	1
34	HOUSING CHILLER SIDES AND FRONT	23490	1
35	COMPRESSOR AND CONDENSER FAN HARNESS	23510	1
36	EVAPORATOR FAN BRACKET	23630	1
37	CONDENSER COIL	097-8007	1
37A	CONDENSER COIL TOP INSULATION	098-9023	1
38	THERMOSTAT MOUNTING PLATE	23440	1
39	CLIP	098-8144	2
40	NEOPRENE 3/32" X 1/2"	1824500	39"
41	GASKET	23520	53"
42	SCREW #6-32 X 5/16"	17691	3

PARTS LIST CHILLER ASSEMBLY

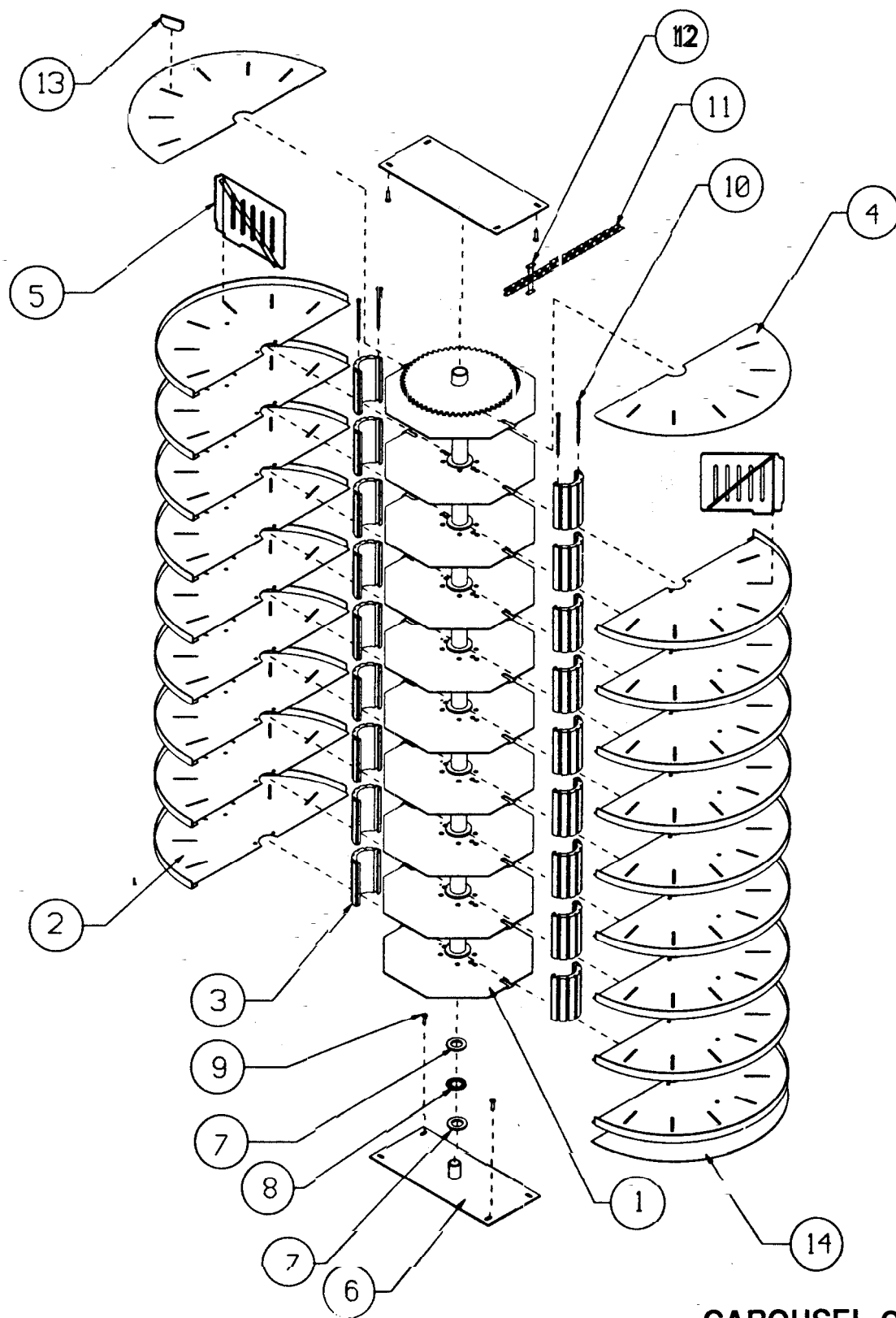
ITEM	DESCRIPTION	PART NO.	QTY
43	WASHER	16154	4
44	HOLD DOWN BRACKET CONDENSATE PAN	23438	1
45	INSULATION CHILLER SIDE COLD FOOD	23498	1
46	DATA PLATE	23541	1
47	EVAPORATOR BRACKET	23491	1
48	GROMMET	23553	4
49	SLEEVE	23554	4
50	DECAL WIRING DIAGRAM	23555	1
51	COLD FOOD HANDLE	097-4128	1
52	EVAPORATOR END BRACKET	23608	1
53	CHILLER BASE INSULATION	23613	1

CABINET ASSEMBLY



**PARTS LIST
PRIMARY COMPONENTS
CABINET ASSEMBLY**

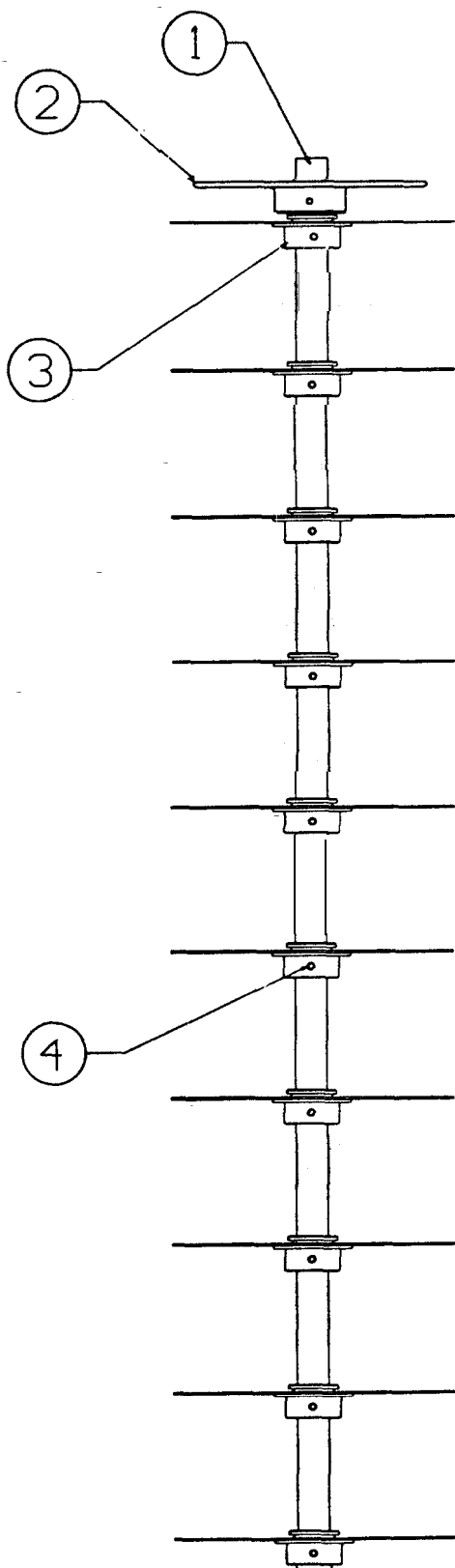
ITEM	DESCRIPTION	PART NO.	QTY
1	CAROUSEL TRAY SUPPORT ASSEMBLY	098-5276	1
2	GROMMET 1/2" RUBBER	001-8021	1
3	SWITCH MOUNTING COLD FOOD DOOR	098-4154	1
4	COVER SCREW #6-20 X 3/8	S40C620-6	2
5	SCREW #8-18 X 3/8	S39C8 18-6	2
6	COLD FOOD DOOR SWITCH	099-8037	1
7	SWITCH MOUNTING COVER	098-4155	1
8	WIRE CLAMP	400-8056	1
9	SCREW #8-18 X 3/8"	01298BLK	1
10	AIR INTAKE FRAME	098-4363	1
11	SCREW #8-32 X 1/4	S42C832-4	2
12	SWITCH PULL TO CHEAT	19746	1
13	DOOR SWITCH BRACKET	098-4346BLK	1
14	MAIN SHELF SUPPORT	230-4046	1
15	WING NUT WRENCH	098-4185	1
16	WIRE CLAMP 1/2"	400-8056	2
17	INSECT SCREEN	098-8063	1



CAROUSEL COMPONENTS

PARTS LIST CAROUSEL COMPONENTS

ITEM	DESCRIPTION	PART NO.	QTY
1	TRAY SUPPORT ASSEMBLY	098-5276	1
2	TRAY SEGMENT	098-5115	18
3	TRAY SUPPORT DIVIDER	098-2003	18
4	TOP TRAY ASSEMBLY SEGMENT	098-5058WHT	2
5	DIVIDER TRAY	098-3018	66
6	BASE PLATE	098-5277	2
7	THRUST WASHER	098-8156	2
8	ROLLER NEEDLE BEARING	098-8157	1
9	SCREW #8-18 X 5/8	S39C818-10	8
10	SCREW #6-32	S15C632-48	36
11	CHAIN 3/8 PITCH	098-8053	1
12	CHAIN REPAIR LINK 3/8 INCH	098-8054	1
13	HOLDER	098-4115	66
14	PLATE HOLDER	098-4114WHT	18



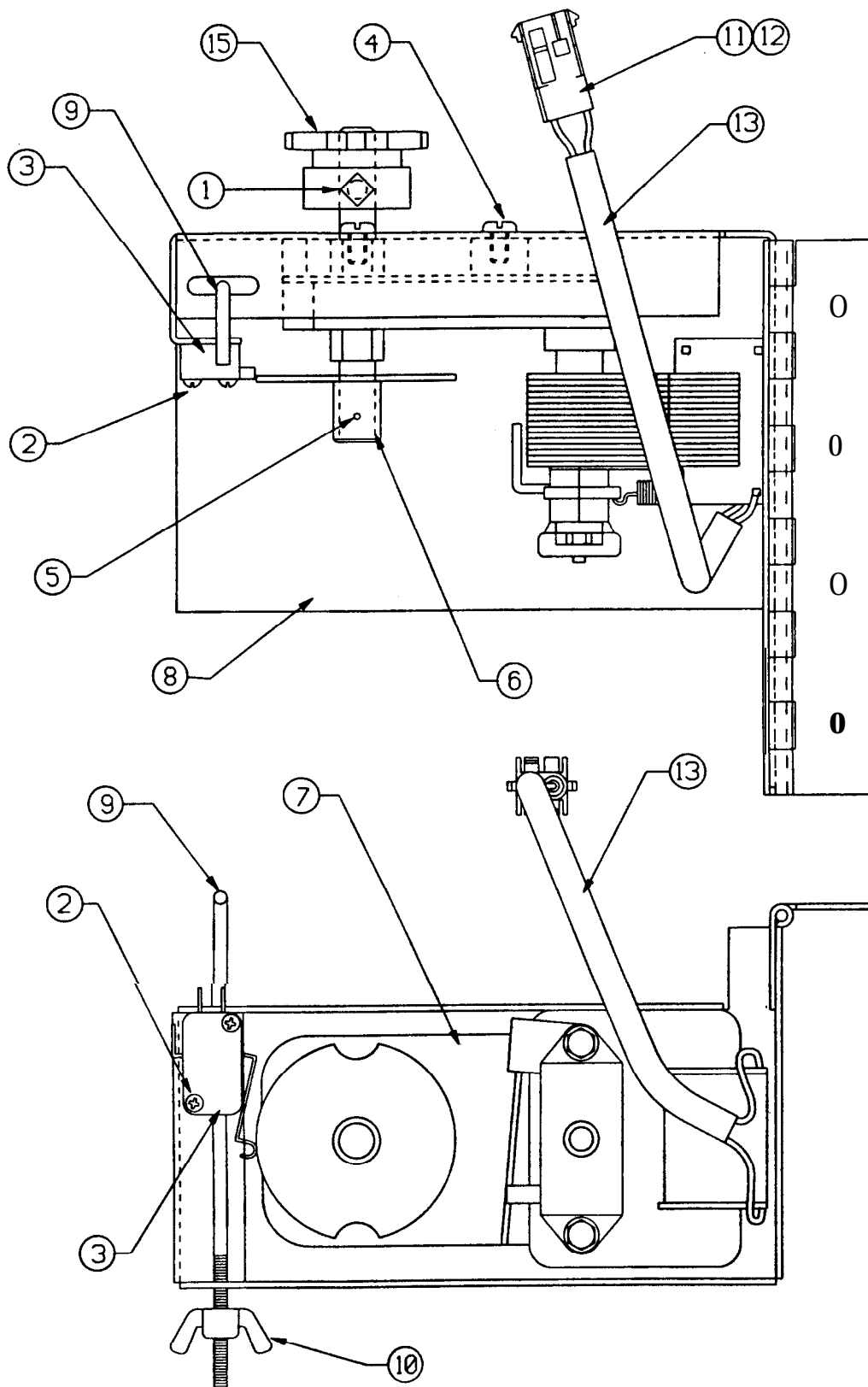
CAROUSEL ASSEMBLY

PARTS LIST

ITEM	DESCRIPTION	PART #	QTY.
1	Assembly, Carousel Shaft	098-8164	1
2	Sprocket, 60 Tooth, Modified	098-8152	1
3	Assembly, Tray Support	098-5278	10
4	Screw, Set, 1/4-20X 1/2", Half Oog Point	098-8165	22

NOTE

SET SCREW MUST ENGAGE HOLE IN SHAFT
DO NOT OVERTIGHTEN SET SCREWS
INSTALL SET SCREWS WITH LOCTITE #272



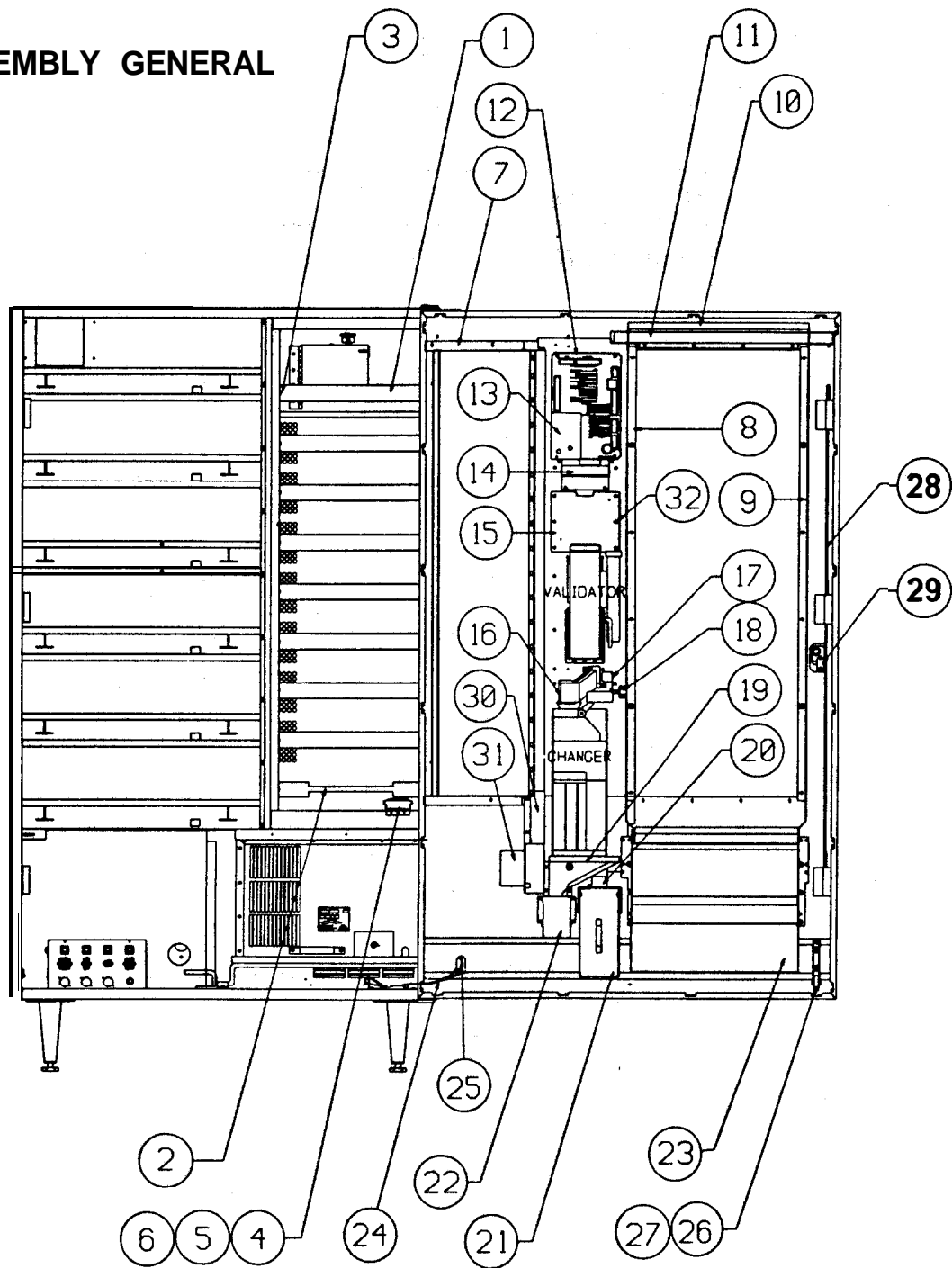
CAROUSEL MOTOR ASSEMBLY

PARTS LIST

CAROUSEL MOTOR ASSEMBLY

ITEM	DESCRIPTION	PART NO.	QTY
1	COMPLETE MOTOR ASSEMBLY	098-5060	1
2	SET SCREW 1/4 X 20 X 3/8	098-8038	2
3	SCREW	13261	2
4	MICRO-SWITCH	412-8009	1
5	SCREW #8-32 X 5/16	23380	4
6	ROLL PIN	P10K094-10	1
7	MTR. COLUMN CAM ASSEMBLY	098-5129	1
8	SHOPPER DRIVE MOTOR	098-8073	1
9	SHOPPER MOTOR BRACKET	098-5001	1
10	BELT TENSION ROD	098-8030	1
11	#8-32 WING NUT	098-8029	1
12	SOCKET	21 O-8003	1
13	CONTACT PIN	21 O-8001	2
14	VINYL TUBING CLEAR	098-8026	5
15	CABLE TIE	001-8103	1
	SPROCKET	098-8050	1

CABINET ASSEMBLY GENERAL



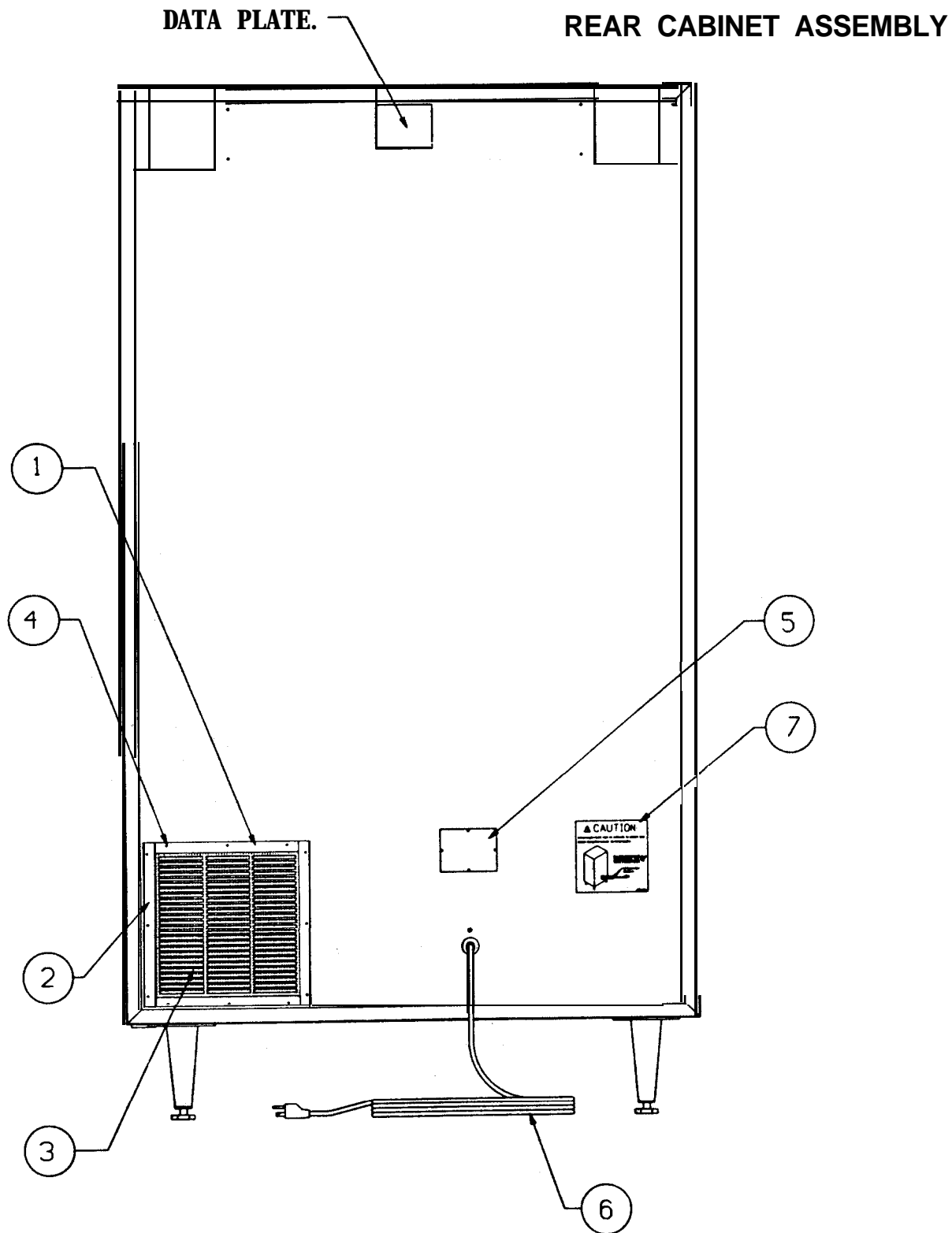
NOTE:

COLD FOOD DOOR AND CAROUSEL ASSEMBLY
NOT SHOWN-SEE ASSEMBLIES ELSEWHERE
IN THIS MANUAL.

PARTS LIST

CABINET ASSEMBLY GENERAL

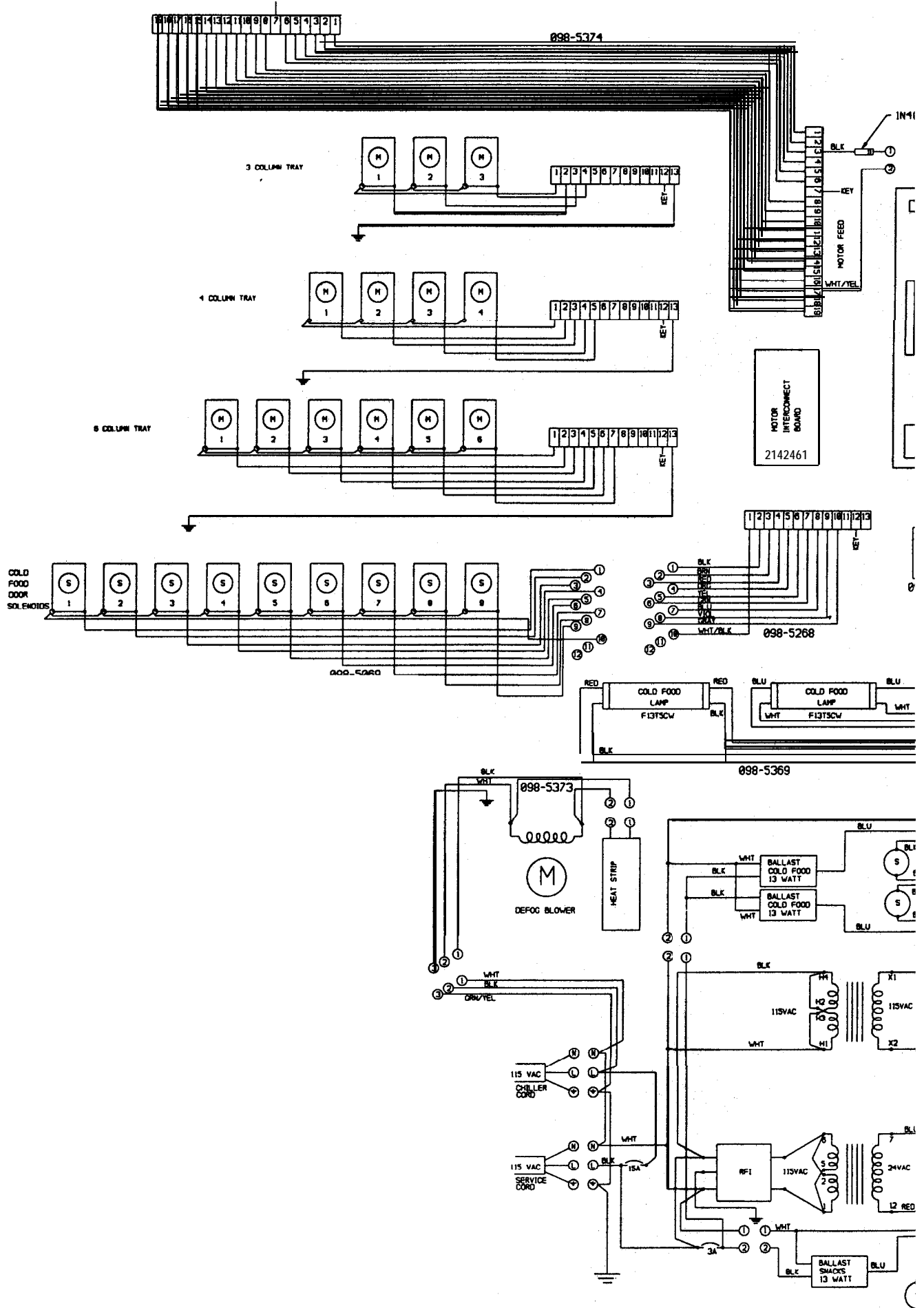
ITEM	DESCRIPTION	PART NO.	QTY
1	PRODUCT GUARD	098-4109	8
2	FAN PRODUCT GUARD	098-4132	1
3	SCREW #8-18 X 3/8	S39D818-6	18
4	DIGITAL THERMOMETER	098-8129	1
5	FRONT THERMOMETER BRACKET	098-4277	1
6	REAR THERMOMETER BRACKET	098-4278	1
7	SHADOW BOX W/A	098-5216	1
8	L.H. PRODUCT GUIDE	099-4010	1
9	R.H. PRODUT GUIDE	099-4011	1
10	TOP SUPPORT PRODUCT GUIDE	203-4047	1
11	LAMP BRACKET ASSEMBLY	098-5257	1
12	CONTROL BOARD COVER DECAL	098-8166	1
13	CONTROL BOARD COVER	098-5308	1
14	DISPLAY	21153	1
15	KEYPAD BACKING PLATE	098-4354	1
16	COIN CHUTE ASSEMBLY	098-5339	1
17	COIN REJECT LEVER ASSEMBLY	098-4440	1
18	MOUNTING BRACKET ASSBLY COIN REJECT	098-4439	1
19	COIN RETURN CHUTE ASSEMBLY	098-5358	1
20	RETAINER CASH BOX	098-5292	1
21	CASH BOX ASSEMBLY	098-5104	1
22	COIN RETURN CUP ASSEMBLY	001-5132	1
23	DELIVERY TRAY ASSEMBLY	099-5015	1
24	DOOR STOP CABLE ASSEMBLY	098-5091	1
25	SCREW	S16C818-8	4
26	DOOR SUPPORT ROLLER ASSEMBLY	150-5244	1
27	SCREW	S20C2520-8	2
28	T-HANDLE LOCKING BAR ASSEMBLY	230-5026	1
29	DRVE CAM AND LIFT LEVER ASSEMBLY	170-5028	1
30	BLOWER MOUNT ASSEMBLY	098-5376	1
31	MOTOR COVER	098-4331	1
32	NUT HEX W/LOCKWASHER	20208	40



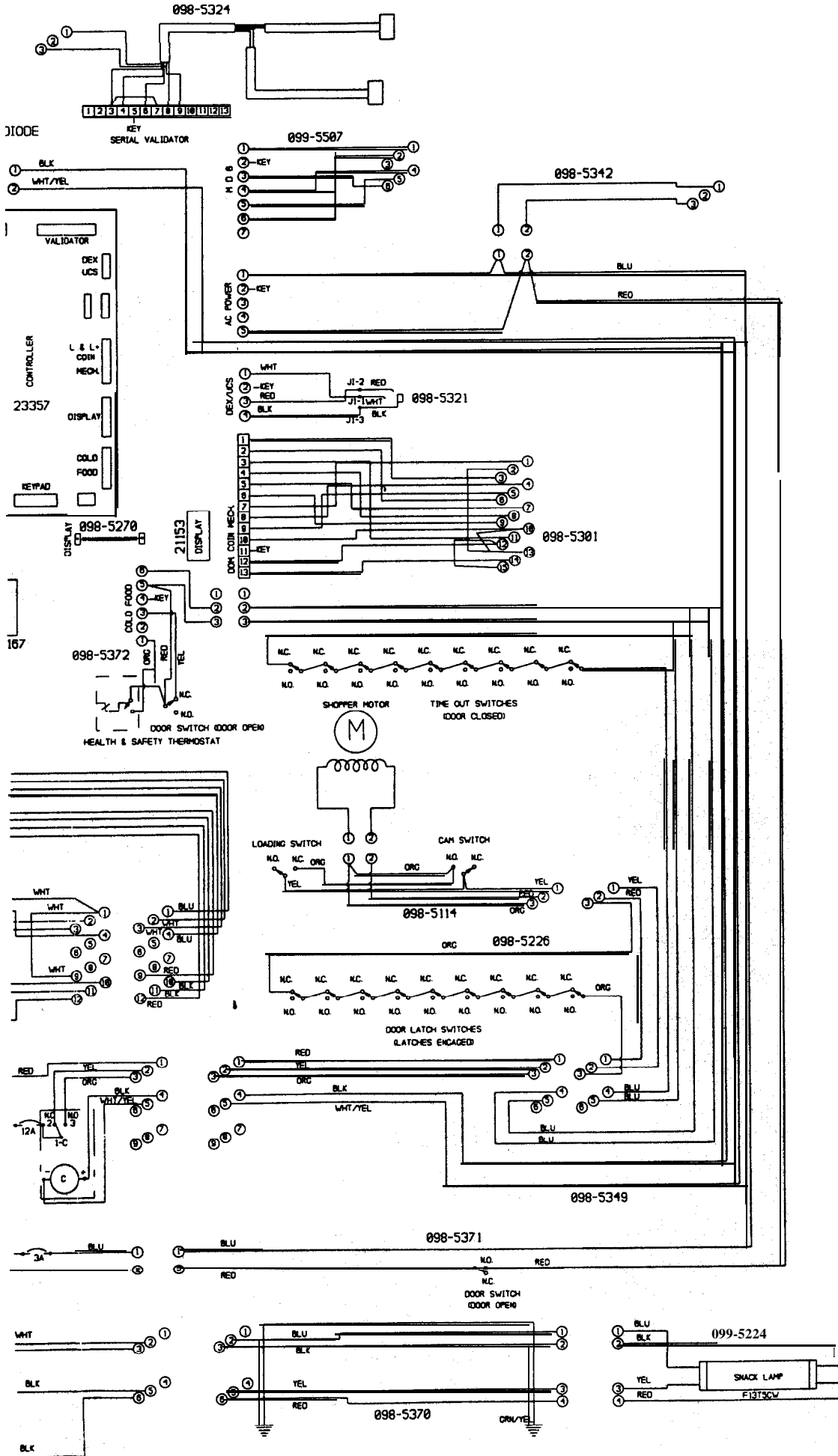
PARTS LIST

REAR CABINET ASSEMBLY

ITEM	DESCRIPTION	PART NO.	Q T Y
1	HORIZONTAL SCREEN RETAINER	098- 437502	2
2	VERTICAL SCREEN RETAINER	098- 437503	2
3	EXHAUST SCREEN BUG	098- 4365	1
4	SCREEN #8-18 X 3/8	01298BLK	12
5	SLAVE MACHINE CORD COVER	099-4168	1
6	SERVICE CORD ASSEMBLY COMBO	098-5213	1
7	CAUTION LABEL FOR POWER CORD	097-8028	1



POWER BOX ASSY.
098-5202





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